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MONTHLY BULLETIN HEALTH DEPARTMENT



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CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
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No. 1

RÉSUMÉ OF DEPARTMENTAL ACTIVITIES FOR THE YEAR 1930.

The outstanding favorable feature for the calendar year 1930 was the decrease in the total number of deaths from all causes from 11,652 during 1929 to approximately 11,005 for 1930, with a corresponding decrease in the death rate from 14.92 in 1929 to 14.09 for 1930.

There will be an increase in the total number of live births recorded from a total of 17,935 in 1929 to approximately 18,250 for the year 1930.

A decrease in the number of deaths of persons sixty years and over from 5,025 during 1929 to 4,727 during 1930 will be shown.

Deaths from diphtheria, approximately twenty-three for the year 1930, will be the lowest number from the disease ever recorded in Boston.

Grouping the deaths from arteriosclerosis, cerebral hemorrhage, heart disease, and chronic nephritis (the so-called degenerative diseases), the total for 1930 will be approximately 3,734, a decrease of 227 as compared with 1929.

Decreases were also shown in the deaths from broncho and lobar pneumonia, accidents, homicides, influenza, tuberculosis, pulmonary, and typhoid fever.

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Increases were shown in the number of deaths from cancer, diarrhea and enteritis, under two years, puerperal diseases and suicides.

The statistical table estimated for 1930, with comparative figures for the five previous years, follows.

VITAL STATISTICS FOR CALENDAR YEAR 1930 WITH COMPARATIVE FIGURES FOR FIVE PREVIOUS CALENDAR YEARS. (REVISED CENSUS FIGURES USED IN COMPILING RATES.)

	Estimates for 1930.	1929.	1928.	1927.	1926.	1925.
Live births.....	18,250	17,935	18,751	19,071	18,640	18,596
Birth rate.....	23.36	22.96	24.02	24.44	23.90	23.85
Total deaths.....	11,005	11,652	11,563	11,102	11,719	11,571
Death rate.....	14.09	14.92	14.81	14.23	15.02	14.84
Infant deaths.....	1,265	1,235	1,446	1,455	1,575	1,582
Infant mortality rate.....	69.31	68.86	77.11	76.29	84.49	85.07
Deaths of persons over sixty years of age.....	4,727	5,025	4,829	4,389	4,549	4,360
<i>Degenerative diseases — deaths:</i>						
Arteriosclerosis.....	301	367	280	243	326	396
Cerebral hemorrhage.....	635	613	636	598	625	689
Heart disease.....	2,019	2,230	2,449	2,134	2,279	2,008
Nephritis, chronic.....	779	751	628	663	635	572
Totals.....	3,734	3,961	3,993	3,638	3,865	3,665
<i>Miscellaneous deaths:</i>						
Accidents.....	490	594	597	607	602	667
Broncho-pneumonia.....	716	839	781	583	680	624
Cancer.....	1,338	1,286	1,227	1,218	1,179	1,159
Diarrhea and enteritis (under two years).....	154	132	209	230	231	157
Homicides.....	15	23	27	31	31	27
Puerperal diseases.....	125	112	126	141	137	125
Suicides.....	124	112	113	104	105	111
<i>Reportable diseases — deaths:</i>						
Anterior poliomyelitis.....	21	10	14	63	7	9
Diphtheria.....	23	51	63	60	54	99
Influenza.....	17	131	62	37	76	81
Measles.....	51	7	71	40	60	113
Lobar pneumonia.....	486	591	576	531	602	557
Scarlet fever.....	39	25	31	53	38	47
Pulmonary tuberculosis.....	535	570	581	601	684	670
Typhoid fever.....	6	13	5	9	14	27

MEDICAL DIVISION.

During the past year, Boston has been very fortunate in having escaped anything in the nature of epidemic.

Anterior Poliomyelitis.— The total number of cases reported for the year was less than 300 and over half of these were convalescent nonresidents who were brought to Boston for treatment for paralytic symptoms.

Cerebrospinal Meningitis.— The number of cases reported the past year was no more than our average total.

Diphtheria.— Cases of diphtheria tended to show an increase despite the extensive artificial immunization that is being carried on.

Septic Sore Throat.—The number of cases reported during the year, less than 100, fails to indicate the number or seriousness of streptococcus infections of the throat.

Scarlet Fever.—The prevailing type of this disease continues to be mild, which fact is making its control difficult, since many cases are not recognized until they have given rise to secondary cases.

Measles and Chicken Pox.—The number of cases of these diseases is indicative of a process of natural immunization which is going on in the community.

Typhoid Fever.—The number of cases reported was smaller than the average in the past.

Lobar Pneumonia.—The number of cases was average for recent years when no epidemic has prevailed.

Venereal Diseases.—Approximately 2,500 cases of gonorrhea and about 1,600 cases of syphilis called for action on the part of this division because of neglect of treatment.

Ophthalmia.—The number of reported cases was average and is not to be taken as an indication of the prevalence of serious eye infections in the newborn in Boston, but is the result of a local situation which serves to bring a nurse under some auspices or other into nearly every home where there is a newborn infant.

Miscellaneous.—The division was also called upon to investigate cases of food poisoning and carbon monoxide poisoning.

Contagious Diseases in Animals.—The regulations promulgated by the State Department of Public Health, in 1928, making all dog bite cases reportable to the local Health Department, has materially increased the work of this division.

A considerable number of cases of supposed psittacosis were reported, but in no one of the cases seen was there any justification found for such a diagnosis.

The health and condition of the cattle in Boston is satisfactory and stables and surroundings well kept. No milch cows were condemned in Boston for tuberculosis.

LABORATORY DIVISION.

About 46,000 examinations have been made in the bacteriological laboratory of this department for the first eleven months.

After three years of research a new medium for the growth of *C. diphtheria* has been completed during the past eleven months, and this is now used in the routine outfit.

Also during the past year, dentists and physicians have apparently recognized the importance of a search for the spirilla of Vin-

cent and are finding it to be the cause of infection in many conditions of the mouth and throat. Between January 1 and November 30, 1930, the laboratory made 114 examinations for Vincent's angina, of which 59 were positive and 55 negative.

DIVISION OF TUBERCULOSIS.

The clinic work of this division is becoming every day more efficient. There has been one solarium added, that of the West End Health Unit, and this program, handling as it does the children of pre-school age who are contacts with open cases, and under par constitutionally, is carrying on ably and well.

The program is as comprehensive as can be made, combining in proper relation sunlight and nutritional activity. These children made remarkable progress in the ten-month period. We have been fortunate with this age group up to the recent few months, at which time Charlestown suffered by reason of whooping cough.

Forty-seven cases were admitted to private sanatoria; 173 to state sanatoria; and 455 to Boston Sanatorium.

The hospitalization of cases of tuberculosis is a difficult problem as yet, and will be acute for a few months yet to come. It is expected that at that time the Boston Sanatorium equipment will have been completed, and will make possible the admission of those cases now in private sanatoria.

The following statement shows the activities of the Division of Tuberculosis:

Total number of examinations at clinics	13,202
Total number of new examinations at clinics	2,284
Total number of hours spent at clinics by physicians	2,182
Total number of clinic sessions held	1,304
Total number of Von Pirquet tests	1,810
Total number of Wassermann tests	806
Total number lamp treatments (ten-month)	1,408
Total number X-rays (ten-month)	3,316
Total number cases reported	1,497
Total number deaths reported (death rate per 100,000, 66.57)	540

"Lamp and "X-Ray" figures estimated on a ten-month basis owing to vacation period during the month of August.

The completion of the West End Health Unit adds one more full X-ray equipment, making a total of seven.

DIVISION OF CHILD HYGIENE.

The attendance of babies and pre-school age children at the child health conferences maintained by this division is a splendid

indication of the interest of the parents of Boston in the preservation of child health. There are twenty-eight conferences held weekly at eighteen stations, seven of which are in health units, and eleven in municipal buildings, settlement houses, etc. As has been the custom for several years, the entering classes of the parochial schools were immunized against diphtheria by the medical inspectors of this department. The Charlestown Health Unit, opened late in 1929, began the program of activities early in 1930. The new Blossom Street Health Unit, adjacent to the old building, which has been functioning since 1916, was dedicated in September, 1930. This makes a total of seven health units functioning in various parts of the city. In the eye service, in the North End Unit, 239 new cases were seen, 918 refractions found, and glasses recommended in 262 cases.

DENTAL SERVICE AT HEALTH UNITS.

The dental service in operation at the units now employs fourteen dentists and seven dental hygienists, working under the direction of a director, with a marked increase in the number of children receiving treatment, in fact, almost twice as many patients have been treated as evidenced below:

Total patients, January 1 to December 31, 1930	56,812
Total patients, January 1 to December 31, 1929	28,672
Total operations, January 1 to December 31, 1930	91,651
Total operations, January 1 to December 31, 1929	51,732

The above increase of almost 100 per cent in number of patients and 72 per cent in number of dental operations shows the value of the system inaugurated early in the current year whereby each dental clinic has two registered dentists who are permanently assigned to their respective clinics and to which they devote their full time each day. Much has also been done toward the education of children in the care of their teeth.

NURSING SERVICE.

Service has been provided for twenty-seven weekly tuberculosis clinics, thirty weekly child hygiene conferences and the solarium program (daily) for the Tuberculosis Division. Most of the parochial schools are visited every day. Day nurseries are also visited daily. Home visitations are made to well children, from birth to school age. Parochial school children visited when necessary, communicable disease cases, tuberculosis cases and other special assignments, as needed.

✓ The nurses have secured information for two surveys this past

year; one on the pre-school age child for use of the White House Conference and one on maternal deaths in hospitals.

FOOD INSPECTION.

Food inspection has been carried on in a satisfactory manner. More than 50,000 regular route inspections of stores, warehouses, manufactories and the stocks of vendors were accomplished, together with reinspections of premises where defects were found to exist. Over 2,000 notices to abate unsanitary conditions were served at defective establishments; 413,400 pounds of foodstuffs were condemned.

The new sausage law, which forbids the manufacture as well as sale of a certain unwholesome type of sausage, was brought to the attention of various establishments by means of a circular.

In the hot weather, special attention was paid to require persons operating temporary refreshment stands, not equipped with the necessary sterilization facilities, to supply straws and paper dishes and cups which are discarded after one use. Every effort was made to see to it that ice cream was served with a minimum of handling. Itinerant vendors were required to carry only wrapped ice cream. Ice cream manufactories were given special inspections at intervals, particular attention being given to the cleanliness of the premises, products and methods, and a generally satisfactory condition was noted.

Bakeries and tonic factories were also specially inspected, with a view to bringing about any needed corrections.

In cooperation with the Boston Station of the United States Food, Drug and Insecticide Administration, a survey was made of warehouses and wholesale establishments dealing in all classes of nuts. In the course of this inspection, 2,600 pounds of chestnuts were condemned.

DAIRY INSPECTION.

The product of about 120,000 cows on New England farms, also New York State and the Province of Quebec, is necessary to provide the 650,000 quarts of milk needed to supply the citizens of Boston with milk and cream.

In Boston, the milk is received at establishments licensed to pasteurize the milk, whose owners are licensed milk dealers, and the milk is pasteurized in strictly modern equipment approved by this department. At the end of the processing, each day, all equipment is taken apart, cleaned and sterilized. All pasteurizing equipment is provided with automatic recording devices which show upon a chart the record of the temperature and holding period of each lot of milk pasteurized. A dated chart must be on file to show the

results of each day's operation. After pasteurization, the milk is cooled and bottled and then capped. Milk bottle caps are purchased in sealed tubes and the process of bottling milk and capping is done by machinery. In every particular, all establishments for the pasteurization of milk are under constant supervisory inspection.

A brief summary of the work follows:

Total number inspections	18,248
Dairy inspections	6,925
Inactive dairies	179
Inspection milk plants and dealers	2,749
Bacteriological examinations	1,995
Sediment tests	6,222
Inspection of country creameries	140
Dairies scoring passable mark	5,133
Dairies scoring below passable mark	1,792
Dairies with milk rooms	5,765
Dairies without milk rooms	1,160
Total number of cattle inspected	113,464

BUREAU OF MILK INSPECTION.

The established routine of inspection of milk, milk products, ice cream and vinegar has been maintained and there have been collected and examined somewhat less than the average number of samples.

In order to protect the milk supply of this city from the destructive effects caused by the illegal and unfair competition offered by western cream in unlimited quantities at cut prices, the Health Commissioner, on February 15, 1930, declared an embargo against western cream, which was kept until November 27, 1930, when it was lifted to a limited extent. As a result of this, production within the inspected milk shed was stimulated and a quality improvement program sponsored by producers was encouraged.

During the year, in cooperation with the Dairy Division, a program was worked out for a more adequate control of western cream when and if it becomes necessary to admit it for sale in Boston. A program was also worked out for the limitation of purchases of western cream to sources of demonstrated ability to ship cream of good quality. The producer quality improvement program above referred to was adopted and has accomplished very satisfactory results.

As an aid to the producer in his efforts to improve his product, two new regulations were adopted which require in substance that all milk be delivered daily to receiving stations either as milk or

cream. A marked improvement in the quality of the milk received for pasteurization was immediately noticed.

The program for elimination of infectious abortion from herds producing certified milk under the supervision of the Medical Milk Commission of Boston, Inc., adopted in July, 1929, with January 1, 1931, as a time limit, has progressed well and is expected to be consummated on schedule.

Especial attention has also been directed to ice cream in continuation of the program adopted in 1929. The paid permit system for sale of ice cream with the inspection follow-up required has resulted in remarkable improvement in the general quality of ice cream and the sanitation surrounding its dispensing.

SANITARY DIVISION.

The work of this division in the abatement of nuisances, removal of sources of filth and causes of sickness, including insanitary buildings, yards, areas and vacant lots, has been carried forward consistently, with satisfactory results.

A special survey and intensive work in remedying bad drainage conditions along the waterfront was made.

A survey of drainage conditions along the Neponset river was also undertaken in this year.

A tour along the waterfront with a committee interested in the removal of old hulks and other debris, especially along Chelsea creek, was made late this fall.

Two of the large public alleys in the Back Bay district were resurfaced and drained under the direction of this division during the year.

A new development of the work has resulted from the opening of a large number of indoor golf courses. These places are maintained and operated under the usual rules and conditions imposed on public halls and theaters in the city. The usual inspection, especially at the time of licensing of places of amusement, in cooperation with the licensing bureau, has been carried on during the year.

The inspectors detailed for rat-breeding suppression and investigations of ships and wharves have carried on their work throughout the year. Ships to the number of 277 have been examined in cooperation with the United States Quarantine Service. The work has increased over 1929.

The following table shows the detail of the work accomplished by the division for the eleven (11) months ending November 30, 1930:

Complaints investigated	7,278
Original inspections made	32,192
Nuisances abated	21,614
Defects noted:	
Structural	3,317
Maintenance	30,714
	<hr/> 34,031
Tenement house inspection:	
Tenement houses:	
Measured	29
Routine inspections	3,748
Three-family houses:	
Measured	72
Routine inspections	5,613
Drainage conditions remedied:	
House	1,249
Surface	273

HEALTH CONDITIONS IN THE UNITED STATES DURING 1930.

In a report recently made public by the excerpts from the report of the United States Public Health Service, Surgeon-General H. S. Cumming points out that for the past fiscal year health conditions throughout the United States were generally good, with the exception of certain diseases. The prevalence of influenza and pneumonia was comparatively low during the year, and there were comparatively few deaths from these conditions.

Plague-infected rodents were found in the State of California, but no human cases of plague were found in the United States or its possessions.

Preliminary figures show a decrease in both the birth and death rate as compared with the preceding year. This is a continuation of the trend which has been noted in the statistics for most civilized countries for several decades.

In 1928 there was an increase in the incidence of malaria. This disease has been disappearing from many parts of the United States where it was once prevalent. For 1929 the reports from forty-five states showed a slight decrease in malaria deaths from the high figures of 1928, but in some of the southern states where malaria is a serious problem, the reports of cases and deaths show increased prevalence in 1929 as compared with 1928.

The case and death rates for diphtheria have been decreasing for many years, and in the calendar year 1929 these rates reached new low records.

The incidence of meningococcus meningitis has steadily increased since 1924 to the winter of 1930. But in the spring of 1930, the number of cases dropped below the figures for 1929.

The prevalence of pellagra has been increasing for several years. In 1924 the pellagra death rate computed from reports to the Public Health Service was 2.5 per 100,000 population. For the calendar year 1929 the pellagra death rate was 5.5 per 100,000 population.

During the calendar year 1929 the incidence of infantile paralysis was lower than it had been since 1926, but by the end of June, 1930, there was a marked increase in the number of cases reported.

For three years, at least, the incidence of smallpox in the United States has been increasing. Forty-five states reported 34,685 cases of smallpox in 1927, 38,114 cases in 1928, and 41,458 cases in 1929. The disease was of the mild type. One danger in smallpox lies in the fact that the virulent type of the disease may appear at any time in a community not protected by vaccination, and before the disease can be checked it may take many lives.

Low records were also reported during the year 1929 for tuberculosis and typhoid fever.

Nine hundred seventy-five cases of undulant (Malta) fever were reported to the Public Health Service for the calendar year 1929, with forty-one deaths. The importance of undulant fever becomes more apparent as more is learned of the disease.

Tularemia is much more widespread than it was thought to be when the disease was discovered. The reports are not complete, but in 1929 461 cases and thirty-six deaths were reported to the Public Health Service.

The mild type of typhus fever, which differs in some respects from the Old World typhus and from the form of typhus which is endemic in Mexico, was reported during the year 1929 in a number of states, especially in the southeastern part of the United States. Incomplete reports showed 239 cases of typhus fever and sixteen deaths from this disease in eighteen states during 1929.

DANGERS OF CARBON-MONOXIDE GAS POISONING.

At this time of the year fatalities are most likely to occur from running automobiles in closed garages. The gas from the exhaust is a very quick-acting poison, and when the operator recognizes the fact that he is ill, he may not have sufficient strength to save himself. *Bear this fact in mind.*

TO PHYSICIANS.

Have you attended any births during the calendar year 1930, or any previous year, wherein you failed to make a return of the births to the City Registrar?

The registration of births is of vital importance for its value to both the child and its parents, and for the record of your city in its standing among the cities of the country and the world with respect to its infant mortality rate.

There are many important instances where a birth certificate is found to be of value, especially in later life, and when it has not been reported much embarrassment is caused not only to the individual concerned but to the physician who was in attendance at the birth. We know that a birth certificate is necessary many times during life, and when we need it there is nothing that can replace it; it becomes invaluable.

HOW IMPORTANT IS HEART DISEASE AMONG SCHOOL CHILDREN?

In New York City more deaths occur among school girls from heart disease than from any other cause; among school boys it is the second most important cause of death, accidents coming first.—

Bulletin, Children's Bureau.

SUMMARY OF WORK, DECEMBER, 1930.

ADMINISTRATION DIVISION.

Legal notices	72	Personnel:	
Settlements:		Permanent appointments	3
Total cases	149	Resignation	1
Notices	102	Temporary appointments	3
Bills	47	Promotion	1
		Trip authorized	1
		Salaries increased	6

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,096	Stable permits approved (temporary)	4
Denatured alcohol approved	18	Garbage transportation approved	2
Denatured alcohol disapproved	1	Milk licenses approved	128
Hen licenses approved	17	Pedlers' licenses approved	31
Massage-manicure approved	66	Undertakers' licenses approved,	3
Ice cream dealers approved	84		
Dump permits approved	18		

MEDICAL DIVISION.

Reported cases	1,758	Visits:	
Nonresidents	76	By V. D. investigator	371
Deaths investigated	51	By medical inspectors to cases of communicable disease	56

BACTERIOLOGICAL LABORATORY DIVISION.

DIPHTHERIA:		
Positive for diagnosis	66	
Positive for release	107	
Negative for diagnosis	504	
Negative for release	105	
No growth cultures	143	
	<hr/>	925
DARK FIELD:		
Positive	4	
Negative	2	
Unsatisfactory	1	
	<hr/>	7
GONORRHEAL OPHTHALMIA:		
Negative	2	
Unsatisfactory	48	
	<hr/>	50
GONORRHEAL URETHRITIS:		
Positive	162	
Negative	708	
	<hr/>	870
GENITO URINARY TUBERCULOSIS:		
Positive	2	
Negative	32	
	<hr/>	34
MALARIA:		
Negative	2	
	<hr/>	2
MISCELLANEOUS EXAMINATIONS:		
Positive	8	
Negative	42	
Unclassified	159	
	<hr/>	209
TUBERCULOSIS:		
Positive	38	
Negative	291	
Unsatisfactory	8	
	<hr/>	337
TYPHOID:		
Positive	2	
Negative	35	
Atypical	4	
	<hr/>	41
SYPHILIS:		
Positive	139	
Negative	958	
Unsatisfactory	16	
Doubtful	6	
	<hr/>	1,119
Bacteriological milk examinations	689	
	<hr/>	
Total		4,283

Smears for Vincent's angina, 10; unit urines, 158; urine for eberthella typhi, 16; feces for eberthella typhi, 16; urine for organisms, 1; chicken for organisms, 16; turkey for organisms, 2; cultures for virulence, 5; eel for organisms, 1.

FOOD DIVISION.

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during December, 1930.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association, using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.....	12.75	3.90	20,000
Antetomasso, Peter.....	12.76	3.93	13,000
Brandley, T. J. & P. J.....	12.95	4.13	650
Buxton, William E.*.....	13.54	4.50	13,000
Casey, James D.....	12.70	3.98	1,000
Cashin, J. F., & Co.....	12.68	3.85	15,000
Cedar Hill Farm, Inc.*.....	12.28	3.57	8,000
Chapin, George L.....	12.76	4.05	8,000
Clark, Levi.....	12.61	4.03	24,000
Corkery, John J.....	12.88	4.07	22,000
Cosgrove, Martin S.....	13.03	4.10	7,000
Daley, John.....	12.39	3.80	12,000
Dean, Louis W.*.....	13.52	4.40	12,000
Deerfoot Farm Company.....	13.01	4.18	14,000
Denehy, Timothy.....	12.73	3.83	12,000
Driscoll, William B., Company.....	12.50	3.85	12,000
Elm Spring Farm Company.....	12.39	3.80	27,000
Ferguson, Malcolm D.....	12.71	3.98	12,000
Garfield, Mason *.....	14.67	5.35	6,000
Garvin, Charles.....	14.49	5.13	8,000
Giroux, J. E. & H. J.....	12.62	3.85	33,000
Griffin, Joseph L.....	12.97	4.03	15,000
Gushee, Chester W.....	12.87	4.00	16,000

* All milk from tuberculin tested cows.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Hampden Creamery Company.....	13.16	4.10	43,000
Herlihy Brothers, Inc.....	12.56	3.75	50,000
Hickey, J. B.....	12.40	3.83	11,000
Holden, J. E.....	12.37	3.71	29,000
Hood, H. P., & Sons, Inc.....	12.55	3.86	14,000
Hutchinson, Frank T.....	12.86	4.05	14,000
Jones, William T., Company.....	12.92	4.20	18,000
Kendall Brothers.....	12.99	3.88	7,000
Kingston Brothers.....	13.06	4.00	11,000
Knapp, George J.*.....	12.68	3.85	25,000
Lang Brothers.....	12.75	3.87	14,000
Larsson, Charles.....	12.88	3.93	20,000
Lyndonville Creamery Association.....	13.16	4.10	13,000
Lyons, William A.....	13.04	4.23	10,000
Manning, Harriet.....	12.67	3.95	21,000
McAdams, J. F., & Brothers, Inc.....	12.94	4.03	16,000
McKernan, John.....	12.80	3.97	13,000
New England Creamery Products Company*.....	12.81	4.07	19,000
Prescott, J. B., Company.....	12.39	3.98	6,000
Robinson, A. J.....	13.00	3.90	11,000
Schuster, Adam.....	12.91	4.00	26,000
Seven Oaks Dairy Company.....	12.66	3.87	27,000
Shawsheen Dairy, Inc.....	13.42	4.77	11,000
Shiek, Jacob.....	12.58	3.78	38,000
Somerset Farm Creamery Company.....	13.35	4.40	11,000
Sterling Farm Milk Company.....	12.72	3.94	13,000
Stone, H. L.....	12.50	3.88	14,000
Stuart, W. E., Company.....	12.97	4.10	11,000
Turner Centre System.....	12.50	3.78	22,000
United Farmers Cooperative Creamery Association, Inc...	12.79	4.00	13,000
Walker-Gordon Laboratory Company*†.....	12.74	4.10	50
Weiler, E., & Son.....	12.86	3.99	20,000
Westwood Farm Milk Company.....	12.78	3.90	19,000
White Brothers.....	12.70	4.05	11,000
Whiting Milk Companies.....	12.38	3.72	23,000
Whittemore, W. D.....	13.04	4.13	21,000
Wiswall, Granville A.....	12.62	3.90	9,000
Woodland, Charles L.....	12.82	4.00	9,000

* All milk from tuberculin tested cows.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc. . .	12.74	3.93	14,000
M. Brown & Sons.....	Whiting Milk Companies... .	12.43	3.70	12,000
The Cloverdale Company.....	Herlihy Brothers, Inc.	12.54	3.80	17,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.	12.55	3.72	15,000
First National Stores, Inc.	Bellow Falls Co-operative Creamery Association.	13.25	4.33	14,000
Morgan Brothers Company.....	United Farmers Co-operative Creamery Association, Inc.	12.86	4.12	15,000
M. Winer Company.....	M. Winer Company.....	12.70	3.95	16,000

GRADE A MILK — PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.35	4.43	7,000
Cashin, J. F., & Co.....	12.84	4.53	7,000
Cosgrove, Martin S.....	13.42	4.50	10,000
Dean, Louis W.*.....	14.24	4.80	8,000
Elm Spring Farm Company.....	13.06	4.15	16,000
Griffin, Joseph L.....	13.40	4.42	8,000
Gushee, Chester W.....	12.90	4.00	6,000
Herlihy Brothers, Inc.....	12.70	4.40	19,000
Hood, H. P., & Sons, Inc.*.....	12.67	4.18	8,000
Jones, William T., Company.....	13.50	4.53	4,000
Lyndonville Creamery Association.....	13.74	4.55	10,000
McAdams, J. F., & Brothers, Inc.....	13.20	4.55	10,000
New England Creamery Products Company*.....	13.37	4.38	6,000
Robinson, A. J.....	13.19	4.25	1,500
Seven Oaks Dairy Company.....	13.10	4.18	8,000
Sterling Farm Milk Company.....	13.10	4.40	7,000
Turner Centre System.....	12.52	4.05	11,000
Weiler, E., & Sons.....	13.53	4.53	7,000
White Brothers.....	12.89	4.30	13,000
Whiting Milk Companies*.....	12.57	4.05	8,000
Woodland, Charles L.....	13.24	4.35	5,000

* All milk from tuberculin tested cows.

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All cows tuberculin tested and accredited.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.*.....	Own.....	13.96	4.70	1,100
Turner Centre System.....	Alta Crest.....	13.08	4.00	2,000
Walker-Gordon Laboratory Company.*	Own.....	12.68	4.05	1,200
Whiting Milk Companies.....	Hampshire Hills.....	12.82	3.90	900

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK — PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P. & Sons, Inc.*.....	Own.....	14.30	4.80	75

* All cows tested and reported free from infectious abortion.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	318
Milk from stores	683
Vinegar	22
Butter and cheese	4
Miscellaneous	10

Samples referred to Bacteriological Laboratory for examination:

Milk	689
Bottles	46
Caps	144
Court case	1
Fines	\$10

DAIRY DIVISION.

Total services	1,382	Total cattle inspected	7,979
Dairies inspected	430	Inspection of milk plants and licensed dealers	374
Scoring above 50*	328	Country creamery inspections	7
Scoring below	102	Sediment tests	224
With milk rooms	395	Investigations of high bacterial counts	5
Without milk rooms	35		
Inactive	2		

* Passable mark.

FOOD INSPECTION DIVISION. DECEMBER, 1930.

District inspections	3,819
Reinspections	249
Market inspections	1,644
Terminal inspections	735
Vehicle inspections*	3,379
Stand inspections	1,600
Complaints	41
Notices to abate	217
Condemnations	6,626
Pedler Service:	
Numbers assigned	41
Licenses certified	31
Vehicles approved	634

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	3,995	Parts condemned	1,340
Calves inspected	3,949	Animals condemned	58
Swine inspected	5,033	Total of meat condemnations (pounds)	28,396
Sheep inspected	560		

SANITARY DIVISION.

Original inspections	2,787	Complaints investigated	465
Causes for action found	1,563	Nuisances abated	1,784
Reinspections	6,076	Routine inspections	3,157
Legal notices served	70		

PNEUMONIA.

Pneumonia is a contagious disease characterized by more or less extensive consolidation of the lungs and general bodily poisoning. Pneumonia may be produced by different kinds of pathogenic organisms or in other words, disease producing germs. The character of the consolidation depends upon the kind of disease organisms chiefly concerned. According to the character of the consolidation it is customary to refer to pneumonia as lobar pneumonia and broncho-pneumonia, but the practical importance of this distinction is not as great as it was formerly considered to be.

TUBERCULOSIS DIVISION.

In the month of December there were 135 clinic sessions held at the various Units.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF CASES AT CLINIC.			TOTAL NUMBER OF NEW CASES AT CLINIC.		
		Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	19	124	81	205	16	15	31
East Boston.....	14	39	47	86	3	6	9
North End.....	14	29	68	97	5	6	11
West End.....	14	35	52	87	6	9	15
South Boston.....	14	60	66	126	10	21	31
Boston Dispensary.....	10	30	9	39	10	6	16
Brighton.....	10	17	19	36	3	5	8
Charlestown.....	8	19	51	70	2	4	6
Codman Square.....	14	100	110	210	14	9	23
Hyde Park.....	8	36	48	84	7	4	11
Arcadia Street.....	5	27	52	79	3	8	11
Roxbury.....	5	76	96	172	12	20	32
Totals.....	135	592	699	1,291	91	113	204

	Von Pirquet.	Wassermann.	Lamp.	X-Ray.
South End.....	17	15	124	—
East Boston.....	4	1	—	—
North End.....	5	6	—	—
West End.....	10	7	—	—
South Boston.....	18	7	148	—
Boston Dispensary.....	7	4	—	—
Brighton.....	4	1	—	—
Charlestown.....	4	1	—	—
Codman Square.....	16	9	—	—
Hyde Park.....	12	5	—	—
Arcadia Street.....	12	2	—	—
Roxbury.....	19	9	—	—
Totals.....	128	67	272	—

BAN ON IMPORTATION OF PARROTS LIFTED.

The lifting, on October 30, by the United States Public Health Service, of the ban on the importation of parrots into the United States recalls the outbreak of psittacosis last winter. Parrots may now be brought in through ports where quarantine officers are stationed, subject to certain regulations of shipping, detention and inspection. An individual returning from the tropics or elsewhere abroad may bring in as many as five privately-owned parrots without having them held for the fifteen-day inspection period.

**TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PUL-
MONARY TUBERCULOSIS AND DATE OF DEATH, DURING
DECEMBER, 1930.**

CLASSIFICATION.	Number.	Percentage.
After death.....	7	22.58
Seven days or less.....	1	3.23
Eight to fourteen days, inclusive.....	—	—
Fifteen to twenty-one days, inclusive.....	2	6.44
Twenty-two to thirty-one days, inclusive.....	1	3.23
WITHIN FIRST MONTH. (Total).....	11	35.48
Within second month.....	3	9.68
Within third month.....	1	3.23
Within fourth month.....	1	3.23
Within fifth month.....	1	3.23
Within sixth month.....	2	6.44
Within seven month.....	1	3.23
Within eighth month.....	—	—
Within ninth month.....	1	3.23
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelve month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	21	67.75
Within second year.....	2	6.44
Within third year.....	2	6.44
More than three years.....	6	19.35
Grand totals.....	31	99.98

**MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM
TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE
MONTH OF DECEMBER, 1930.**

PUBLIC SANATORİÜMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	14	26	15	11
North Reading State Sanatorium.....	—	—	2	—
Lakeville State Sanatorium.....	3	1	3	2
Rutland State Sanatorium.....	3	—	—	2
Westfield State Sanatorium.....	—	1	—	—
Tewksbury.....	5	2	—	—
Totals.....	25	30	20	15

PRIVATE SANATORİÜMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	—
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	—	—	1	—
Doctor Crane's Sanatorium.....	—	—	2	5
Totals.....	—	—	3	5

CHILD HYGIENE DIVISION.

Report of Medical Inspectors, December, 1930.

Inspections	302
Physical examinations	502
Schick tests	3
Toxin-antitoxin	321
Vaccinations at units	115
Vaccination certificates	70
Day nursery visits	18
Parochial school visits	5
Conferences	12

Report of Child Health Conferences, December, 1930.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	218	11	229	38	1	39	5	46
Lincoln street.....	73	14	87	11	1	12	3	39
Charlestown.....	334	18	352	23	—	23	10	35
Codman square.....	496	111	607	52	5	57	10	61
Columbia road.....	310	13	323	26	—	26	10	32
Arcadia street.....	322	21	343	47	1	48	8	43
South Boston.....	332	15	347	51	—	51	8	44
Hyde Park.....	206	24	330	17	2	19	8	28
Jamaica Plain.....	234	22	256	29	1	30	5	51
North End.....	133	27	160	20	2	22	7	23
Roslindale.....	295	29	324	29	1	30	5	65
Roxbury.....	568	32	600	61	2	63	13	46
Children's Hospital.....	145	1	146	21	—	21	5	29
1049 Columbus avenue.....	237	46	283	44	9	53	8	35
South Boston.....	285	33	318	52	4	56	8	40
South End.....	262	19	281	26	—	26	8	35
Tyler street.....	90	12	102	11	3	14	5	20
West End.....	357	88	445	42	—	42	9	49
Totals.....	4,897	536	5,433	600	32	632	135	40

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, DECEMBER, 1930.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	3	6	15	24	6
Lincoln street.....	5	5	2	12	1
Charlestown.....	7	8	12	27	13
Codman square.....	42	40	33	115	18
Columbia road.....	1	4	6	11	3
Arcadia street.....	7	6	2	15	10
East Boston.....	2	2	15	19	4
Hyde Park.....	5	3	10	18	11
Jamaica Plain.....	1	2	7	10	6
North End.....	3	—	3	6	—
Roslindale.....	5	6	11	22	9
Roxbury.....	17	16	17	50	26
Children's Hospital.....	8	7	11	26	17
Columbus avenue.....	4	6	4	14	11
South Boston.....	—	—	—	—	2
South End.....	3	2	1	6	3
Tyler street.....	4	2	3	9	10
West End.....	9	8	2	19	5
Totals.....	126	123	154	403	155

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, DECEMBER, 1930.

UNIT.	1929.	1930.
West End.....	484	764
North End.....	339	615
South End.....	414	651
South Boston.....	443	940
East Boston.....	383	774
Charlestown.....	119*	753
Roxbury.....	321	790
Totals.....	2,503	5,287

* Opened December 17, 1929.

Increase in number of patients treated during December, 1930, over December, 1929, 2,784 patients.

Increase: 2,784 patients; 111 per cent.

COOPERATIVE HEALTH UNIT REPORT, DECEMBER, 1930.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physicians.....	85	.....	85	.....	101	.....	82	353
BOSTON LYING-IN HOSPITAL:								
Clinics.....	4	5	5	5	3	3	3	28
Attendance.....	24	92	40	47	62	29	41	335
New cases.....	4	22	9	4	19	9	11	78
COMMUNITY HEALTH ASSOCIATION:								
Homes visited.....	2,010	3,258	1,583	2,395	2,357	2,939	1,500	16,042
Cases referred.....	241	.....	.....	237	.....	.....	153	631
Diseases reported.....	9	.....	.....	.....	.....	.....	5	14
MOTHERS' CLUB:								
Number of meetings.....	4	5	.....	5	5	4	5	28
Attendance.....	82	52	.....	135	71	156	82	578
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	4	.....	.....	4	4	4	20
Attendance.....	32	42	.....	.....	37	38	44	193
CHILDREN'S HOSPITAL:								
Infantile clinics.....	5	4	.....	5	5	3	.....	22
Attendance.....	55	21	.....	59	73	40	.....	248
New cases.....	.....	.....	.....	1	.....	.....	.....	1
STATE DEPARTMENT OF MENTAL HYGIENE:								
Habit-forming clinics.....	.....	.....	.....	.....	.....	.....	5	5
Attendance.....	.....	.....	.....	.....	.....	.....	21	21
New cases.....	.....	.....	.....	.....	.....	.....	5	5
BOY SCOUTS OF AMERICA:								
Notice of meetings.....	.....	.....	.....	2	.....	.....	.....	2
Attendance.....	.....	.....	.....	9	.....	.....	.....	9
CATHOLIC CHARITABLE BUREAU:								
Christmas Party.....	.....	1	.....	.....	.....	.....	.....	1
Attendance.....	.....	400	.....	.....	.....	.....	.....	400
HEALTH DEPARTMENT:								
Refraction Service:								
Number of refractions.....	.....	.....	82	.....	.....	.....	.....	82
Number of diagnoses.....	.....	.....	90	.....	.....	.....	.....	90
Glasses recommended.....	.....	.....	23	.....	.....	.....	.....	23
New cases.....	.....	.....	16	.....	.....	.....	.....	16

NURSING SERVICE.

REPORT FOR DECEMBER, 1930.

HOMES VISITED	16,790
CHILD HYGIENE:	
Visits to new cases	1,223
Visits to old cases	10,063
	<hr/> 11,286
Included are:	
Wrong addresses	84
Not seen *	1,075
	<hr/>
Absent visits	1,159
COMMUNICABLE DISEASES:	
Visits to new cases	962
Visits to old cases	1,672
	<hr/> 2,634
Included are:	
Wrong addresses	30
Not seen *	49
	<hr/>
Absent visits	79
TUBERCULOSIS:	
Visits to new cases	166
Visits to old cases	5,119
	<hr/> 5,285
Included are:	
Wrong addresses	26
Not seen *	446
	<hr/>
Absent visits	472
Positive cases visited	2,443
Contact cases visited	1,885
Suspect cases visited	485
	<hr/> 4,813
MISCELLANEOUS VISITS:	
Patients accompanied to hospital	77
Visits to day nurseries	72
Visits to parochial schools	450
	<hr/> 599
Total number of visits *	<hr/> 19,804
	<hr/>
Hours in station by nurses	Hrs. Min. 3,796 25
Hours at baby and pre-school conferences	2,004 25
Hours at tuberculosis clinic	833 30
	<hr/>
Total number of hours	6,364 20

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, DECEMBER, 1930.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING DECEMBER,
1930, WITH COMPARATIVE FIGURES FOR DECEMBER, 1929.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1930.	1929.	Increase or Decrease.	1930.	1929.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	930	974	—44	13.76	14.51	— .75
Nonresidents deducted.....	765	795	—30	11.32	11.84	— .52
By AGE:						
Under one year.....	92	110	—18	1.36	1.64	— .28
One year to four years, inclusive.....	28	34	—6	.41	.51	— .10
Sixty years and over.....	421	437	—16	6.23	6.51	— .28
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,194	1,282	—88	17.66	19.10	—1.44
b. Registered stillbirths.....	41	27	+14	.61	.40	+ .21
Stillbirths per 1,000 live births and still- births.....	—	—	—	33.20	20.63	+12.57
c. Deaths of mothers from causes incident to childbirth.....	8	7	+1	.12	.10	+ .02
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	6.48	5.35	+1.13
d. Deaths in first year per 1,000 live births..	—	—	—	77.05	85.80	—8.75

	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1930.	1929.	Increase or Decrease.	1930.	1929.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	41	47	—6	60.6	70.0	—9.4
Homicides.....	1	1	—	1.5	1.5	—
Suicides.....	9	5	+4	13.3	7.4	+5.9
Automobile accidents * (death in Boston)...	13	15	—2	19.2	22.3	—3.1
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as pri- mary).....	12	23	—11	17.7	34.3	—16.6
Broncho-pneumonia.....	59	68	—9	87.3	101.3	—14.0
Cancer.....	123	112	+11	180.5	166.9	+13.6
Cirrhosis of the liver.....	3	5	—2	4.4	7.4	—3.0
Diabetes mellitus.....	27	19	+8	39.9	28.3	+11.6
Diarrhea and enteritis (under two years)....	4	11	—7	5.9	16.4	—10.5
DEGENERATIVE DISEASES, SO CALLED:						
Arterio sclerosis.....	24	36	—12	35.5	53.6	—18.1
Cerebral hemorrhage.....	65	43	+22	96.1	64.1	+32.0
Heart disease.....	189	181	+8	279.6	269.7	+9.9
Nephritis, chronic.....	71	66	+5	105.0	98.3	+6.7

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING DECEMBER,
1930, WITH COMPARATIVE FIGURES FOR DECEMBER, 1929.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1930.	1929.	Increase or Decrease.	1930.	1929.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 15	4	+11	22.2	5.9	+16.3
	Deaths.. —	2	—2	—	3.0	—3.0
Cerebrospinal meningitis.....	Cases.. 4	3	+1	5.9	4.5	+1.4
	Deaths.. —	2	—2	—	3.0	—3.0
Diphtheria.....	Cases.. 110	135	—25	162.7	201.1	—38.4
	Deaths.. 2	5	—3	2.9	7.4	—4.5
Influenza.....	Cases.. 11	11	—	16.3	16.4	—1
	Deaths.. 3	6	—3	4.4	8.9	—4.5
Measles.....	Cases.. 249	71	+178	368.3	105.8	+262.5
	Deaths.. 3	—	+3	4.4	—	+4.4
Pneumonia (lobar).....	Cases.. 140	141	—1	207.1	210.1	—3.0
	Deaths.. 43	59	—16	63.6	87.9	—24.3
Scarlet fever.....	Cases.. 241	316	—75	356.5	470.8	—114.3
	Deaths.. 2	1	+1	2.9	1.5	+1.4
Tuberculosis (pulmonary).....	Cases.. 110	114	—4	162.7	169.8	—7.1
	Deaths.. 31	30	+1	45.8	44.7	+1.1
Tuberculosis (other forms).....	Cases.. 26	21	+5	38.5	31.3	+7.2
	Deaths.. 2	5	—3	2.9	7.4	—4.5
Typhoid fever.....	Cases.. 8	2	+6	11.8	3.0	+8.8
	Deaths.. 2	—	+2	2.9	—	+2.9
Whooping cough.....	Cases.. 130	242	—112	192.3	360.6	—168.3
	Deaths.. 2	7	—5	2.9	10.4	—7.5

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

155-9

MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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No. 2

INFLUENZA STATISTICS.

Raymond Pearl has said that when one attempts to draw deductions from statistics of "causes of death" other than those purporting to give total deaths and mortality from suicide, traumatism and homicide, "one should always remember that his material is fundamentally of a dubious character." Pearl spoke as a bewildered mathematician who has observed the failure of vital statistics to conform to the theory of probabilities or some of its applications.

A broad knowledge of pathology and practical experience with the uncertainties of medical diagnosis, as well as mathematics, are needed for an intelligent utilization of vital statistics. When one is considering causes of death, he is dealing fundamentally with pathology and it is often impossible to express pathology in terms of tabulated statistics.

After a person, prepared as above indicated, has scrutinized twenty thousand death certificates as they are presented at a municipal health department, interviewed physicians who have signed them and learned how this or that pathological condition may happen to appear in a certificate as a cause of death, he comes to have different ideas than before he started as to what mortality statistics may be made to furnish reliable information and what

are to be regarded as misleading and worthless. In attempting to present the genesis of influenza and pneumonia statistics, this article does not pretend to be beyond Boston experience. Some cities may succeed better than we in assuring the accuracy of their morbidity and mortality statistics, but it is not believed that the Boston experience is too exceptional to be of practical interest in dealing with such statistics generally.

Mortality from influenza and from pneumonia are of course practically inseparable statistically. Influenza seldom kills except by leading to a fatal pneumonia of some form, but there are many predisposing causes of pneumonia besides influenza.

Uncertainty as to the part which pneumonia plays in mortality credited statistically to pneumonia arises out of the fact that pneumonia generally kills those whose vitality is impaired. It may happen occasionally that a person or group of persons apparently in good health are struck down directly by some form of pneumonia, but usually the pneumonia comes to end the life of the defective infant, the sickly child, the old man with worn-out degenerated organs, alcoholics, and persons exhausted with chronic disease. These classes, physically exhausted by the Boston winter, run up our pneumonia mortality by the middle of February. The Boston Health Department will not accept a death certificate of bronchopneumonia without effort to determine a contributory cause. It is not often that inquiry fails to reveal one.

The bacteria which may produce a pneumonia are usually not harmful to normal healthy people. Some persons may be found carrying and cultivating these organisms in their mouths and throats at any season. The number of such carriers tends to increase during the colder months and to reach their maximum at the end of the winter. It is then that our local absenteeism from industry on account of infections of the respiratory tract regularly reach their annual maximum.

The extent of the distribution in the population of bacteria capable of producing pneumonia and of other identified bacteria likewise associated with infections of the respiratory tract appears to vary in different years and some particular species have been found to be more common some years than others. It is doubtless owing to variations of this character in the annual bacteria crop and to factors which influence popular susceptibility to infection that diseases of the respiratory tract tend at times to assume an epidemic character.

Acute diseases as well as chronic debilitating conditions make persons vulnerable to the bacteria capable of producing a pneumonia. Measles and whooping cough are such diseases. "Common colds"

and influenza are others. Even in the aged or infirm the terminal fatal pneumonia is often preceded by a "cold." Cases of measles or of influenza die like flies when hospitalized with cases of pneumonia.

By state regulations promulgated under the authority of statutory law, a physician in Massachusetts is required to report to the local health officials any case of influenza which may come to his attention.

Influenza is just as much a definite disease entity as measles, but its clinical manifestations do not always make it as easily recognizable. A typical case of influenza is characterized by a sudden onset, a quick rise in temperature and rapid prostration. Influenza strikes down without warning. A person may feel well and within three hours be unable to walk. A typical case of influenza presents no pronounced catarrhal symptoms, nor evidence of localized infection of the respiratory tract. Such typical cases are to be seen in every influenza epidemic. They were noted by those who had a wide clinical experience with the disease in 1918 and in 1889. The sudden onset and rapid prostration and pronounced constitutional symptoms have been mentioned as characteristic of the disease in every historical epidemic that has been recorded.

Influenza, like measles, renders the respiratory mucous membrane, and presumably the digestive mucous membrane as well, vulnerable to attack by various bacteria to which they may happen to be exposed, including bacteria capable of producing a pneumonia. The influenza may strike a person already suffering with some infection of the respiratory tract. However it may happen, complicating infections of the respiratory tract are frequent. They account for most of the mortality from influenza and for most of the calls for the services of a physician. The popular mind associates influenza with such dangerous or distressing respiratory complications, and physicians avoid fruitless controversy by accepting influenza, the grippe and any disabling infection of the respiratory tract as synonymous.

Newspaper reports of cases of influenza anywhere in this country, or even in Europe, are sufficient to cause reports from physicians of cases of influenza in Boston to make their appearance at the Health Department. If, at the same time, one of the frequent epidemics of colds or other contagious infections of the respiratory tract happens to be present in the city, reports of cases of influenza become sufficiently numerous to indicate a beginning epidemic. On such occasions, it is customary for the medical inspectors of the department to visit reported cases of influenza with a view to examining the evidence on which diagnosis was based.

Usually, there will be found a patient suffering from respiratory infection which might occur as a complication of influenza. The patient, his family, and the physician will all be more interested in the efficacy of treatment than in the question whether influenza has been a factor in the illness. The physician will probably express no positive opinion in the matter, but may say that so long as the "Board of Health" can give him no clear cut differential diagnosis of influenza, he feels that the purpose of the law requiring the reporting of influenza will be best subserved by reporting doubtful cases as influenza.

The Boston Health Department assumes that when influenza is present in the city, its inspectors by investigating reported cases will find some cases of typical unmistakable influenza.

When eighty employees of a hospital are reported as cases of influenza, and the department finds that all give a history of an upper respiratory infection beginning with a coryza, and after about a week incapacitating the sufferer for duty for a few days, the department presumes that the institution has to do with an epidemic form of some infection of the respiratory tract, unrelated to influenza, notwithstanding the professional eminence of the physicians who are reporting the cases as influenza.

On several occasions since 1918, when reported cases of influenza became so numerous as to indicate the presence of epidemic influenza in the city, failure to locate typical cases of influenza led the department to conclude that the epidemic was not influenza.

An interesting experience of this sort occurred in the autumn of 1928. The influenza was then spreading across the country from West to East. We were expecting it to appear in Boston at any time. Reports of cases of influenza in the city began coming into the department. Our investigations failed to reveal typical cases of influenza. It seems probable that the reports were suggested by newspaper accounts of influenza in other parts of the country and the regular autumnal epidemic of colds which the United States Public Health Service has shown to occur over a large part of the country every year at that season. The influenza did not appear in Boston until December. When it arrived, its recognition by our inspectors was immediate and unmistakable.

Unfortunately, most reported cases of influenza, when received at the Health Department, become incorporated in the permanent official statistics as cases of influenza and furnish statistical testimony which subsequent investigators will cite as proof that an epidemic of influenza occurred at that time. It is impracticable to investigate every reported case of influenza for the purpose of trying to establish a correct diagnosis. Moreover, the attempt is

unjustifiable for various reasons, of which one alone is sufficient. There are too many cases in which the available clinical history makes the presence or absence of an influenza infection a matter of guess work in which the attending physician's guess is as good as that of the official investigator.

As soon as cases of influenza are reported by physicians, they also begin to appear on death certificates, usually, of course, as a contributory cause of a fatal pneumonia. The international classification of causes of death makes gripe and influenza synonymous. The writing of influenza or of "the gripe" on death certificates, like the reporting of live cases of influenza, is often suggested by newspaper dispatches of the prevalence of influenza in other parts of the country or of the world.

This is true with respect to other diseases besides influenza. In the three weeks following the death of ex-President Roosevelt, reported to be due to pulmonary embolism, we had more reported deaths from pulmonary embolism in Boston than the total for the previous three years.

To cite another instance. One year in March, within a period of a week, and without previous warning, eight death certificates were presented at the Boston Health Department, giving encephalitis lethargica as a cause of death. All the deaths occurred in hospitals and in three different institutions. In every instance our investigation showed that the hospital clinical history of the case was entirely inconsistent with a diagnosis of encephalitis lethargica and in fact that such a diagnosis did not appear on the bedside records. In seven of the cases the death certificates were withdrawn and other causes of death substituted. One institution notwithstanding the evidence of a mistake refused to change its death certificate. The investigation showed that it may happen that the snap diagnosis of a hospital officer who admits a patient and not the hospital clinical record may be relied on to furnish the cause of death by the hospital physician who fills out a death certificate. Recent discussions of encephalitis lethargica by local medical societies probably accounted for the admitting officers' thoughts of a possible encephalitis lethargica.

The justification for the appearance of influenza in a death certificate is usually no easier to determine than the correctness of a diagnosis of influenza in a patient still alive. It may be possible to do so beyond a reasonable doubt. In some, but not all of the fatal cases of influenza in the 1918 epidemic there was a characteristic post-mortem appearance due presumably to the terminal streptococcus pneumonia. Our efforts, therefore, to establish the justification for specifying influenza as a contributory cause of death in death

certificates of pneumonia are subject to about the same practical reasons for uncertainty as a diagnosis of influenza before death.

It is not justifiable to assume that if cases of influenza begin to appear in our official records, and the number of deaths from pneumonia starts increasing, that influenza is the cause. Our death rate from pneumonia regularly increases as the winter progresses. In some years, pneumonia assumes an epidemic character. This was so before the influenza pandemic of 1918, as it has been since. It cannot be conceded that the other conditions which predispose to the epidemic prevalence of pneumonia have ceased to be operative since 1918.

There is one test which may serve to indicate whether influenza is an appreciable factor in our pneumonia mortality at any time.

There have been well-authenticated cases of a second attack of influenza in the same individual within a period of two or three months. From such evidence it is generally accepted that one attack of influenza does not confer a permanent immunity. However this may be, there was something which made the older population of Boston virtually exempt from fatal results of influenza during the 1918 epidemic and it seems safe to infer likewise exempt from attacks of the disease. Boston was the first large American city struck by the epidemic and the mortality was frightful. Yet for the year 1918 the death rate of Boston for persons over fifty years of age was not unusually high. For persons over sixty, there was no indication of an increase in the rate. When, therefore, an increase in deaths from pneumonia occurs in Boston, and it appears to be confined to the old and the chronically debilitated, we feel justified in assuming that an influenza epidemic is not present. An increase in deaths from pneumonia among the younger age groups need not necessarily mean that influenza is the cause, but it certainly deserves to be considered as concurrent evidence to that effect.

The revelations of bacteriology and developments in sanitary engineering during the last century brought infections of the digestive tract under control. Infections of the respiratory tract still remain practically uncontrolled. They constitute our most important public health problem today. The direct economic losses from such infections is incalculable. This is not all. As a recent investigator has suggested, "A complete understanding of the pathogenesis of the common cold would not only be of value in solving the nature of the malady itself, but would undoubtedly throw important light on the mechanism of all respiratory infections and even, perhaps, on certain diseases that are not regarded as clearly respiratory in origin."

It would seem that a clearer understanding of the etiology of respiratory infections is in prospect. Recent success in the experimental transmission of colds looks like an important step in this direction. What may prove to be equally significant is the large proportion of failures of the filterable virus to infect in these experiments.

Sooner or later, there will come the test of the value of this or that preventive measure, and statistics of the character described in the foregoing will be cited to prove or discredit its efficacy. If statistical studies of respiratory infections are to contribute to progress in the way of control, there must be a more general understanding than is now apparent of the actual reasons for the untrustworthiness of tabulated records of the occurrence of the various infections of the respiratory tract and of the mortality which may properly be credited to them.

UNDULANT FEVER.

A considerable mortality, as well as the long course and the disability involved, make undulant fever a serious disease to human beings. That it constitutes a distinct menace to public health at the present time is evident from the fact that Surgeon H. E. Hasseltine of the United States Public Health Service found that cases were recognized in every state in the Union in 1929. Undulant fever is due to a bacillus known as the brucella, from Doctor Bruce, the investigator, who first identified the organism as the cause of the disease in goats.

Cattle, goats, swine and other animals, as well as human beings, are susceptible to infection with the brucella. Marked differences, however, may appear in the results of infection for reasons which are not yet clearly understood. The power to infect appears to be subject to variations by reason of the existence of different types of the organism. A definite immunity to infection is also to be found both in human beings and animals for reasons which are still awaiting a plausible explanation. So far as human beings are concerned, liability to infection appears to depend somewhat on the species of the diseased animals from which the brucella is derived. What has recently been recognized as brucella infection in cattle, has long been known under various names as a widespread and common disease of cattle in this country. It seems well established that either the flesh or the milk of diseased cattle may transmit undulant fever to human beings, but the comparative infrequency with which the disease has developed in man from infection from cattle shows clearly that man is usually protected by some sort of immunity.

On the other hand, experience has shown that human beings are in great danger of developing undulant fever from infection from diseased swine or goats.

Viewed as a practical public health problem for the people of Boston, two possible ways of contracting undulant fever may be recognized, to wit, from handling the meat of diseased animals and from milk, either from a diseased animal or because the milk has been contaminated with the brucella derived from some other source. Organisms accidentally transplanted into milk will grow and multiply in it just as typhoid fever organisms will. It would appear that when persons contract undulant fever from cow's milk it is very likely because the milk has been accidentally contaminated by organisms actually derived from diseased swine.

For protection against the possibility of infection of handling the meat of diseased animals we are practically dependent upon such inspections and other safeguards as public officials may be able to carry out under the authority of law. So long as the people of Boston stay at home the danger of contracting undulant fever from milk is practically nonexistent. Only an insignificant proportion of the milk sold in Boston today is unpasteurized, and the producers of this milk recognize the possibility of brucella infection and have in effect special precautions to prevent it. Pasteurization kills the brucella.

When Boston people leave the city they may avoid possible danger by using only milk which has been pasteurized, boiled or cooked. This holds true either in the city or in the country.

One may consume milk promiscuously everywhere without ill effects, but if so, he is either lucky or immune to ordinary milk-borne infections. We have steadily been forced to a realization of the fact that the only safe milk for everybody is milk which has been pasteurized, boiled or cooked. This holds true whether a person be eating in a city hotel or at a country farm.

EARLY TREATMENT OF CANCER.

Cancer, in its beginning stage, is usually painless and for this reason, its onset is particularly insidious. At first, it may be a small local growth, which may be safely removed by competent treatment, surgical or otherwise. Every day's delay diminishes the chances of success. A lump in the breast, any persistent abnormal discharge, or bleeding from any part of the body, ulcers which do not heal, and warts or birthmarks which start to grow may mean a beginning cancer. A prompt visit to a physician will assure a cure while cure is possible.

EFFECT OF METHANOL ANTI-FREEZE ON HEALTH.

Surgeon General H. S. Cumming of the United States Public Health Service, when asked regarding the statement issued December 6 by the Bureau of Mines on the effect of methanol anti-freeze on health, stated that the Public Health Service had kept in touch with the observations being made by the Bureau of Mines on the subject, and that he felt there was need for the immediate release of information which would protect the general public. It appeared from the study so far that there was much more danger from exhaust gas (carbon-monoxide) than could possibly come from methanol when used strictly as an anti-freeze liquid in automobiles.

The greatest danger is that some one might drink methanol, especially in view of its being used in place of ordinary denatured alcohol as an anti-freeze, and in view of its other name, methyl alcohol. Methanol when taken internally is more certainly poisonous and more highly fatal than any denatured alcohol. According to press accounts, such poisoning has recently occurred in Pennsylvania.

Another danger is in the use of methanol in shellacs which might be applied over considerable surfaces without adequate ventilation. The presence of the coloring matter as recommended by the Bureau of Mines and the addition of 23 per cent water as at present dispensed, guard anti-freeze methanol against such dangerous use.

A complete study is advisable as to how far methanol can be used safely in other ways; in the meantime, the Surgeon General recommends that methanol be used by the general public as an anti-freeze only, and that the precautions advised by the Bureau of Mines be strictly observed.—*U. S. Public Health Service, S-52-A.*

CYCLES OF INFLUENZA.

A striking characteristic of recent influenza epidemics is their periodicity. Their study from this point of view helps us to understand the past and raises certain questions as to possibilities for the future. This is brought out very clearly by a survey just completed of the death rates from influenza from the industrial policyholders of the Metropolitan Life Insurance Company in the weeks elapsed since 1920. Death rates observed week by week range from something under one per 100,000 per annum during the 34th week (August) of the year 1924, to the high peak of 441 per 100,000 per annum during the seventh week (February of the year 1920). The series of death rates shows a clearly marked periodicity, high spots being reached every third year. To this rule, there has been no exception whatever during the period 1920 to 1930.—*Statistical Bulletin, Metropolitan Life Insurance Company, November, 1930.*

THE NATION'S DEATH RATE.

The joint committee on health problems of the American Medical Association and the National Educational Association has revised its statistics for the first time since 1924, and its report has been summarized in the *New York Times*.

The death rate of the nation as a whole has been halved since 1900, diphtheria and typhoid fever in particular having experienced a 95 per cent reduction in mortality. The reduction in diphtheria mortality, of course, is due to the wide use of antitoxin and toxin-antitoxin; that in typhoid and paratyphoid fever to filtration and chemical treatment of water, pasteurization of milk and the control of carriers. In mass examples, such as in the army, vaccination has been of great value. The death rate from these enteric diseases was 34 per 100,000 in 1900, and 4.9 per 100,000 in 1928. The reduction in military life is still more striking, the death rate from typhoid fever having been 1,961 among every 100,000 soldiers in the first two years of the Civil War, and five among 100,000 during the first two years of the World War.

An appalling toll is still paid to sickness, however, American taxpayers still paying more than \$927,000,000 annually to care for three major groups — \$800,000,000 for tuberculosis, \$90,000,000 for heart disease, and \$37,000,000 for the physically handicapped. It is estimated that the deaths from tuberculosis alone cost the people of the United States over \$1,500,000,000 a year.

The general death rate has been cut from 20-30 per 1,000 of population in 1900, to 12 per 1,000 in 1928. This has meant an increase in life expectancy from 30 years in 1850 to 50 years in 1925. Infant mortality has been reduced from 16 per 100 births in 1900 to seven at present. The monetary value of a newly born boy's life has thus been increased from \$7,553 in 1924 to \$9,333 in 1929.

The death rate from tuberculosis has decreased from 194 per 100,000 in 1900 to 79 per 100,000 in 1928. This decrease is considered to be due largely to improved economic conditions, educational campaigns and increased facilities for early diagnosis and hospitalization. The least improvement, however, has occurred in the age group from 15 to 24 years, and in this group chiefly among girls and young women.

It is estimated that there are in the country 75,000 blind, 45,000 deaf and dumb, and well over 300,000 mental defectives, as well as more than 700,000 persons crippled to an extent that interferes with their earning a living. The expense of maintaining these individuals amounts to more than \$100,000,000.— *N. E. Journal of Medicine*, August 21, 1930.

TO PREVENT TUBERCULOSIS.

There are many unnecessary deaths from tuberculosis simply because the disease is not recognized until it is in an advanced stage. Every cough should be cured promptly or we should find out why it is not. Consult a physician, therefore, if you have a cough which lasts more than two or three weeks, especially if accompanied by loss of weight, strength, and appetite. Even if assured by the physician at the first examination that your lungs are all right you must return for repeated examinations if the cough and other symptoms continue.— *Brookline Health Bulletin, December, 1930.*

CHILDHOOD.

We approach all problems of childhood with affection.

Theirs is the province of joy and good humor.

They are the most wholesome part of the race, the sweetest, for they are fresher from the hands of God.

Whimsical, ingenious, mischievous, we live a life of apprehension as to what their opinion may be of us; a life of defense against their terrifying energy; we put them to bed with a sense of relief and a lingering of devotion.

We envy them the freshness of adventure and discovery of life; we mourn over the disappointments they will meet.— *From President Hoover's Address Opening the White House Conference on Child Health and Protection.*

SUMMARY OF WORK, JANUARY, 1931.

ADMINISTRATION DIVISION.

Legal notices	89	Personnel:	
Forcible removal	1	Leaves of absence	2
Prosecutions ordered	2	Temporary appointment	1
Settlements:			
Total cases	107		
Notices	86		
Bills	21		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,242	Garbage transportation ap-	
Denatured alcohol approved	130	proved	46
Hen licenses approved	6	Milk licenses approved	71
Massage-manicure approved	53	Pedlers' licenses approved	24
Ice cream dealers approved	44	Undertakers' licenses approved,	3
Dump permits approved	14	Day nurseries approved	9
Lying In Hospitals approved	4		

MEDICAL DIVISION.

Reported cases	2,310	Visits:	
Nonresidents	117	By V. D. investigator	382
Deaths investigated	45	By medical inspectors to cases of communicable disease	820

BACTERIOLOGICAL LABORATORY DIVISION.

DIPHTHERIA:

Positive for diagnosis	46	
Positive for release	66	
Negative for diagnosis	618	
Negative for release	116	
No growth cultures	68	914
	—	

DARK FIELD:

Positive	1	
Negative	1	2
	—	

GONORRHEAL OPHTHALMIA:

Negative	60	
	—	60

GONORRHEAL URETHRITIS:

Positive	153	
Negative	775	
Unsatisfactory	1	929
	—	

GENITO URINARY TUBERCULOSIS:

Positive	1	
Negative	25	
Unsatisfactory	2	28
	—	

MISCELLANEOUS EXAMINATIONS:

Positive	21	
Negative	38	
Unclassified	206	265
	—	

TUBERCULOSIS:

Positive	53	
Negative	364	
Unsatisfactory	2	419
	—	

TYPHOID:

Positive	5	
Negative	12	
Atypical	2	19
	—	

SYPHILIS:

Positive	122	
Negative	913	
Unsatisfactory	17	
Doubtful	13	1,065
	—	

Bacteriological milk examinations	680	
Bacteriological ice cream examinations	7	
Milk bottles examined	10	
Caps for milk bottles examined	30	
Water from swimming pools examined	68	
	—	

Total	4,389	
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Smears for Vincent's angina, 19; unit urines, 207; urine for eberthella typhi, 13; feces for eberthella typhi, 13; cultures for virulence, 7; pickles for organisms, 1; sputum for actinomycosis, 5.

FOOD DIVISION.

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during January, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association, using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.	12.31	3.68	30,000
Antetomasso, Peter	12.78	4.08	12,000
Brandley, T. J. & P. J.	12.50	4.00	700
Buxton, William E. *.....	13.92	4.80	6,000
Casey, James D.	12.70	4.03	6,000
Cashin, J. F. & Co.	12.61	3.93	10,000
Cedar Hill Farm, Inc. *.....	12.68	3.80	11,000
Chapin, George L.	12.75	4.05	41,000
Clark, Levi.	12.57	4.00	15,000
Corkery, John J.	13.00	4.15	15,000
Cosgrove, Martin S.	13.08	4.28	11,000
Daley, John.	12.12	3.63	2,500
Dean, Louis W. *.....	13.57	4.51	12,000
Deerfoot Farm Company.	12.97	4.28	9,000
Denehy, Timothy.	12.64	3.80	24,000
Driscoll, William B., Company.	12.34	3.77	14,000
Elm Spring Farm Company.	12.49	3.86	18,000
Ferguson, Malcolm D.	12.63	4.00	54,000
Garfield, Mason.	14.79	5.33	1,200
Garvin, Charles.	14.36	5.25	5,000
Giroux, J. E. & H. J.	12.66	3.92	17,000

* All milk from tuberculin tested cows.

NAME OF DEALER,	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Griffin, Joseph L.....	12.76	3.94	14,000
Gushee, Chester W.....	12.83	4.03	30,000
Hampden Creamery Company.....	12.93	4.08	12,000
Herlihy Brothers, Inc.....	12.61	3.90	17,000
Hickey, J. B.....	12.41	3.90	9,000
Holden, John E.....	12.39	3.77	12,000
Hood, H. P., & Sons, Inc.....	12.51	3.86	12,000
Hutchinson, Frank T.....	13.09	4.28	26,000
Jones, William T., Company.....	12.81	4.05	54,000
Kendall Brothers.....	12.59	3.80	15,000
Kingston Brothers.....	12.78	3.98	11,000
Knapp, George J.*.....	12.76	4.07	24,000
Lang Brothers.....	12.75	3.95	6,000
Larsson, Charles.....	12.84	3.90	52,000
Lyndonville Creamery Association.....	12.95	4.12	44,000
Lyons, William A.....	12.93	4.20	6,000
Manning, Harriet.....	12.72	4.00	23,000
McAdams, J. F., & Brothers, Inc.....	12.77	3.85	11,000
McKernan, John.....	12.94	4.13	11,000
New England Creamery Products Company*.....	12.68	4.06	18,000
Prescott, J. B., Company.....	12.53	3.97	17,000
Robinson, A. J.....	12.98	4.04	31,000
Schuster, Adam.....	12.85	3.97	50,000
Seven Oaks Dairy Company.....	12.68	3.94	12,000
Shawsheen Dairy, Inc.....	13.11	4.23	7,000
Shick, Jacob.....	12.25	3.65	19,000
Somerset Farm Creamery Company.....	13.37	4.53	11,000
Sterling Farm Milk Company.....	12.59	3.93	12,000
Stone, H. L.....	12.49	3.91	20,000
Stuart, W. E., & Co.....	12.66	3.95	13,000
Turner Centre System.....	12.36	3.86	14,000
United Farmers Cooperative Creamery Association, Inc...	12.73	3.98	15,000
Walker-Gordon Laboratory Company*†.....	12.63	4.15	100
Weiler, E., & Son.....	12.60	3.88	32,000
Westwood Farm Milk Company.....	12.86	4.15	14,000
White Brothers.....	12.64	3.95	14,000
Whiting Milk Companies.....	12.36	3.74	15,000
Whittemore, W. D.....	12.88	4.02	32,000
Wiswall, Granville A.....	12.76	4.00	2,500
Woodland, Charles L.*.....	12.80	4.10	12,000

* All milk from tuberculin tested cows.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc. . .	12.45	3.70	13,000
M. Brown & Sons.....	Whiting Milk Companies... .	12.36	3.78	21,000
The Cloverdale Company.....	Herlihy Brothers, Inc.	12.40	3.77	21,000
Economy Grocery Stores Corpo- ration.	Herlihy Brothers, Inc.	12.45	3.77	14,000
First National Stores, Inc.....	Bellows Falls Cooperative Creamery Association.	12.98	4.03	10,000
Morgan Brothers Company.....	New England Creamery Products Company and United Farmers' Cooper- ative Creamery Associa- tion, Inc.	12.77	4.02	13,000
M. Winer Company.....	M. Winer Company.....	12.93	4.20	12,000

GRADE A MILK — PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.34	4.25	6,000
Cashin, J. F., & Co.....	12.83	4.55	5,000
Cosgrove, Martin S.....	13.46	4.65	9,000
Dean Louis W.*.....	14.20	4.95	9,000
Elm Spring Farm Company.....	13.00	4.18	16,000
Griffin, Joseph L.....	13.15	4.30	8,000
Gushee, Chester W.....	13.00	4.20	19,000
Herlihy Brothers, Inc.....	12.65	4.30	10,000
Hood, H. P., & Sons, Inc. *.....	12.71	4.24	10,000
Jones, William T., Company.....	13.28	4.45	14,000
Lyndonville Creamery Association.....	13.45	4.30	25,000
McAdams, J. F., & Brothers, Inc.	13.25	4.50	9,000
New England Creamery Products Company *.....	13.15	4.43	7,000
Robinson, A. J.....	13.27	4.10	2,500
Seven Oaks Dairy Company.....	13.07	4.19	6,000
Sterling Farm Milk Company.....	13.10	4.33	11,000
Turner Centre System.....	12.72	4.10	6,000
White Brothers.....	12.81	4.37	8,000
Whiting Milk Companies *.....	12.62	4.07	5,000
Woodland, Charles L.*.....	13.18	4.40	8,000

* All milk from tuberculin tested cows.

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All cows tuberculin tested.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farm Company.....	Alta Crest.....	13.97	4.80	1,100
Hood, H. P., & Sons, Inc.*.....	Own.....	13.83	4.70	1,300
Walker-Gordon Laboratory Company.*	Own.....	12.69	4.20	6,000
Whiting Milk Companies.....	Hampshire Hills.....	13.06	4.00	2,000

*All cows tested and reported free from infectious abortions.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.*.....	Own.....	13.71	4.53	150

* All cows tested and reported free from infectious abortion.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	328
Milk from stores	754
Vinegar	15
Water	1
Miscellaneous	4

Samples referred to Bacteriological Laboratory for examination:

Bottles	10
Caps	30
Court cases	7
Fines	\$75

DAIRY DIVISION.

Total services	3,626	Total cattle inspected	3,664
Dairies inspected	212	Inspection of milk plants and	
Scoring above 50*	199	licensed dealers	294
Scoring below	13	Country creamery inspections : .	8
With milk rooms	207	Sediment tests	1,219
Without milk rooms	5	Investigations of high bacterial	
Inactive	2	counts	5

* Passable mark.

FOOD INSPECTION DIVISION.

JANUARY, 1931.

District inspections	3,814
Reinspections	394
Market inspections	1,429
Terminal inspections	625
Vehicle inspections *	3,690
Stand inspections	1,772
Complaints	32
Notices to abate	162
Condemnations	24
Pedler Service:	
Numbers assigned	31
Licenses certified	24
Vehicles approved	517

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	3,034	Parts condemned	1,228
Calves inspected	2,908	Animals condemned	43
Swine inspected	4,783	Total of meat condemnations	
Sheep inspected	601	(pounds)	24,603

SANITARY DIVISION.

Original inspections	3,348	Complaints investigated	528
Causes for action found	1,800	Nuisances abated	1,753
Reinspections	6,575	Routine inspections	3,942
Legal notices served	91		

CARE IN WASHING DISHES.

Pneumonia and other disease germs are spread by eating and drinking utensils. This occurs chiefly through failure of the dish-washing process to sterilize such utensils when contaminated. It applies not only to dishes used by the sick but a healthy person picks up pneumonia germs in a street car, grows them in his throat, leaves them on his cup or spoon, and the family dishpan serves to spread the germs over spoons or forks used by the old grandmother or the child recovering from measles who develops pneumonia and dies.

Dishes cannot be sterilized by water into which one's hands may be held. Nothing short of boiling temperature can be depended on to sterilize dirty dishes.

TUBERCULOSIS DIVISION.

In the month of January, 1931, there were 121 clinic sessions held at the various units.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF CASES AT CLINIC.			TOTAL NUMBER OF NEW CASES AT CLINIC.		
		Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	17	110	86	196	23	16	39
East Boston.....	13	65	58	123	15	5	20
North End.....	13	35	116	151	10	11	21
West End.....	13	32	67	99	2	3	5
South Boston.....	13	56	80	136	9	14	23
Boston Dispensary.....	8	23	19	42	11	7	18
Brighton.....	8	8	2	10	1	—	1
Charlestown.....	8	36	84	120	6	13	19
Codman Square.....	12	85	94	179	11	14	25
Hyde Park.....	8	43	29	72	4	8	12
Arcadia Street.....	4	18	22	40	1	1	2
Roxbury.....	4	56	49	105	7	9	16
Totals.....	121	567	706	1,273	100	101	201

	Von Pirquet.	Wassermann.	Lamp.	X-Ray.
South End.....	20	23	143	86
East Boston.....	12	12	—	31
North End.....	16	9	—	41
West End.....	8	5	—	31
South Boston.....	32	14	162	87
Boston Dispensary.....	7	8	—	—
Brighton.....	1	2	—	—
Charlestown.....	14	5	—	34
Codman Square.....	15	10	—	—
Hyde Park.....	14	5	—	—
Arcadia Street.....	4	1	—	—
Roxbury.....	13	8	—	40
Totals.....	156	102	305	350

Full and Complete Birth Registration Insures a Lower Infant Mortality.

Doctor, look over your records of confinements, and report to the City Registrar any births you have thus far failed to report this year. You will then be not only complying with the law, but fulfilling an obligation that is due the child, its parents, and the Commonwealth. If you have any doubt as to any such birth, mail a duplicate to the City Registrar, and so mark it.

FRANCIS X. MAHONEY, M. D., Health Commissioner.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING JANUARY, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	19	39.58
Seven days or less.....	3	6.25
Eight to fourteen days, inclusive.....	1	2.08
Fifteen to twenty-one days, inclusive.....	1	2.08
Twenty-two to thirty-one days, inclusive.....	1	2.08
WITHIN FIRST MONTH. (Total).....	25	52.07
Within second month.....	—	—
Within third month.....	1	2.08
Within fourth month.....	—	—
Within fifth month.....	—	—
Within sixth month.....	1	2.08
Within seven month.....	—	—
Within eighth month.....	3	6.25
Within ninth month.....	2	4.17
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelve month.....	1	2.08
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	33	68.73
Within second year.....	7	14.58
Within third year.....	—	—
More than three years.....	8	16.67
Grand totals.....	48	99.98

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF JANUARY, 1931.

PUBLIC SANATORIALS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	20	23	17	6
North Reading State Sanatorium.....	3	6	2	2
Lakeville State Sanatorium.....	5	1	1	1
Rutland State Sanatorium.....	—	1	—	—
Westfield State Sanatorium.....	—	—	4	1
Tewksbury.....	2	1	—	—
Totals.....	30	32	24	10

PRIVATE SANATORIALS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	—
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	10	—	10	—
Doctor Crane's Sanatorium.....	—	—	1	—
Totals.....	10	—	11	—

CHILD HYGIENE DIVISION.

Report of Medical Inspectors, January, 1931.

Inspections	301
Physical examinations	513
Schick tests	4
Toxin-antitoxin	172
Vaccinations at units	116
Vaccination certificates	68
Day nursery visits	11
Parochial school visits	12
Conferences	12

Report of Child Health Conferences, January, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall	200	15	215	41	4	45	4	54
Lincoln street	74	2	76	10	1	11	4	19
Charlestown	292	13	305	24	3	27	8	38
Codman square	360	65	425	58	10	68	8	53
Columbia road	286	7	293	27	2	29	8	37
Arcadia street	310	14	324	40	1	41	8	41
East Boston	226	15	241	48	2	50	8	30
Hyde Park	158	19	177	17	2	19	8	22
Jamaica Plain	198	19	217	36	1	37	4	54
North End	147	51	198	19	8	27	8	25
Roslindale	185	13	198	16	1	17	4	49
Roxbury	461	29	490	61	7	68	11	45
Children's Hospital	137	5	142	10	2	12	4	36
South Boston	253	45	298	48	3	51	8	37
South End	224	9	233	37	—	37	8	29
Tyler street	132	10	142	20	—	20	5	28
West End	247	43	290	22	10	32	7	41
1049 Columbus avenue	244	26	270	41	4	45	8	34
Totals	4,134	400	4,534	575	61	636	123	37

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, JANUARY, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall	6	5	4	15	1
Lincoln street	1	2	—	3	—
Charlestown	30	11	9	50	6
Codman square	22	17	18	57	8
Columbia road	4	4	4	12	4
Arcadia street	2	4	7	13	16
East Boston	2	—	1	3	11
Hyde Park	9	8	2	19	3
Jamaica Plain	5	3	3	11	5
North End	6	6	—	12	2
Roslindale	3	3	2	8	8
Roxbury	16	13	13	42	9
Children's Hospital	1	1	3	5	3
Columbus avenue	5	3	3	11	14
South Boston	—	—	—	—	1
South End	1	2	—	3	1
Tyler street	5	7	6	18	—
West End	5	7	5	17	1
Totals	123	96	80	299	93

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, JANUARY, 1931.

UNIT.	1930.	1931.
West End.....	664	901
North End.....	439	684
South End.....	542	794
South Boston.....	633	1,349
East Boston.....	596	885
Charlestown.....	584*	832
Roxbury.....	545	1,063
Totals.....	4,053	6,508

* Opened December 17, 1929.

Increase in number of patients treated during January, 1931, over January, 1930, 2,455 patients, 60½ per cent.

COOPERATIVE HEALTH UNIT REPORT, JANUARY, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physician.....	149	.....	82	.....	181	.....	133	545
BOSTON LYING-IN HOSPITAL:								
Number of prenatal clinics.....	5	4	4	4	4	4	4	29
Attendance.....	28	84	30	31	68	29	55	325
New cases.....	7	18	12	6	24	8	17	92
COMMUNITY HEALTH ASSOCIATION:								
Homes visited.....	1,935	3,530	1,736	2,686	2,884	3,209	1,975	17,955
Cases referred.....	328	.....	.....	321	.....	53	157	859
Diseases reported.....	9	.....	.....	.....	.....	4	.....	13
MOTHERS' CLUBS:								
Number of meetings.....	4	4	.....	4	5	5	4	26
Attendance.....	38	51	.....	89	63	86	58	385
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	4	.....	.....	4	4	4	20
Attendance.....	30	32	.....	.....	39	49	53	203
CHILDREN'S HOSPITAL:								
Infantile clinics.....	4	5	.....	4	5	5	.....	23
Attendance.....	33	29	.....	40	75	12	.....	189
New cases.....	.....	1	.....	1	.....	.....	.....	2
BOY SCOUTS OF AMERICA:								
Meetings.....	.....	.....	.....	2	.....	.....	.....	2
Attendance.....	.....	.....	.....	10	.....	.....	.....	10
MEDICAL SOCIETY:								
Meetings.....	.....	1	.....	.....	.....	.....	.....	1
Attendance.....	.....	35	.....	.....	.....	.....	.....	35
STATE DEPARTMENT OF MENTAL DISEASES:								
Habit-forming clinics.....	.....	.....	.....	.....	.....	.....	4	4
Attendance.....	.....	.....	.....	.....	.....	.....	22	23
New cases.....	.....	.....	.....	.....	.....	.....	5	5
JEWISH WELFARE CENTER:								
Staff meetings.....	.....	.....	.....	.....	.....	.....	3	3
Attendance.....	.....	.....	.....	.....	.....	.....	80	80
HEALTH DEPARTMENT:								
Refraction Service:								
Number of refractions.....	.....	.....	76	.....	.....	.....	.....	76
Diagnoses.....	.....	.....	93	.....	.....	.....	.....	93
Glasses recommended.....	.....	.....	32	.....	.....	.....	.....	32
New cases.....	.....	.....	25	.....	.....	.....	.....	25
Nose and Throat Service:								
Clinics.....	.....	.....	.....	.....	.....	.....	2	2
Attendance.....	.....	.....	.....	.....	.....	.....	118	118
Operations recommended.....	.....	.....	.....	.....	.....	.....	65	65
MOTHERS' CLUBS MEETINGS (D. H. D.)								
Attendance.....	11	11

NURSING SERVICE.

REPORT FOR JANUARY, 1931.

HOMES VISITED	16,043
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CHILD HYGIENE:

Visits to new cases	1,178
Visits to old cases	9,499
	<hr/> 10,677
Included are:	
Wrong addresses	86
Not seen *	835
	<hr/>
Absent visits	921

COMMUNICABLE DISEASES:

Visits to new cases	1,176
Visits to old cases	1,751
	<hr/> 2,927
Included are:	
Wrong addresses	44
Not seen *	56
	<hr/>
Absent visits	100

TUBERCULOSIS:

Visits to new cases	180
Visits to old cases	5,105
	<hr/> 5,285
Included are:	
Wrong addresses	38
Not seen *	446
	<hr/>
Absent visits	484
Positive cases visited	2,320
Contact cases visited	1,974
Suspect cases visited	507
	<hr/> 5,285

MISCELLANEOUS VISITS:

Patients accompanied to hospital	83
Visits to day nurseries	59
Visits to parochial schools	548
	<hr/> 690

Total number of visits	19,579
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	Hrs.	Min.
Hours in station by nurses	3,853	30
Hours at baby and pre-school conferences	1,643	15
Hours at tuberculosis clinic	723	55
	<hr/>	<hr/>
Total number of hours	6,220	00

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, JANUARY, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JANUARY,
1931, WITH COMPARATIVE FIGURES FOR JANUARY, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	1,147	1,004	+138	17.45	15.41	+2.04
Nonresidents deducted.....	925	800	+125	14.13	12.28	+1.85
By Age:						
Under one year.....	89	125	—36	1.36	1.92	— .56
One year to four years, inclusive.....	46	38	+8	.70	.58	+ .12
Sixty years and over.....	537	425	+112	8.20	6.52	+1.68
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,177	1,344	—167	17.98	20.62	—2.64
b. Registered stillbirths.....	25	33	—8	.38	.51	—113
Stillbirths per 1,000 live births and still- births.....	—	—	—	20.80	23.96	—3.16
c. Deaths of mothers from causes incident to childbirth.....	10	11	—1	.15	.17	— .02
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	8.32	8.00	+ .32
d. Deaths in first year per 1,000 live births..	89	125	—36	75.61	93.00	—17.39
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	58	41	+17	88.6	62.9	+25.7
Homicides.....	4	1	+3	6.1	1.5	+4.6
Suicides.....	14	16	—2	21.4	24.5	—3.1
Automobile accidents * (death in Boston)...	10	6	+4	15.3	9.2	+6.1
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as pri- mary).....	10	8	+2	15.3	12.3	+3.0
Broncho-pneumonia.....	92	81	+11	140.6	124.3	+16.3
Cancer.....	137	122	+15	209.3	187.2	+22.1
Cirrhosis of the liver.....	10	15	—5	15.3	23.0	—7.7
Diabetes mellitus.....	23	21	+2	35.1	32.2	+2.9
Diarrhea and enteritis (under two years)....	—	7	—7	—	10.7	—10.7
DEGENERATIVE DISEASES, So CALLED:						
Arterio sclerosis.....	32	30	+2	48.9	46.0	+2.9
Cerebral hemorrhage.....	67	55	+12	102.4	84.4	+18.0
Heart disease.....	226	184	+42	345.3	282.3	+63.0
Nephritis, chronic.....	71	78	—7	108.5	119.7	—11.2

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JANUARY,
1931, WITH COMPARATIVE FIGURES FOR JANUARY, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 5	—	+5	7.6	—	+7.6
	Deaths. 1	—	+1	1.5	—	+1.5
Cerebrospinal meningitis.....	Cases.. 4	3	+1	6.1	4.6	+1.5
	Deaths. 2	2	—	3.0	3.1	— .1
Diphtheria.....	Cases.. 94	139	—45	143.6	213.3	—69.7
	Deaths. 2	1	+1	3.0	1.5	+1.5
Influenza.....	Cases.. 224	18	+206	342.3	27.6	+314.7
	Deaths. 11	1	+10	16.8	1.5	+15.3
Measles.....	Cases.. 315	165	+150	481.3	253.2	+228.1
	Deaths. 6	1	+5	9.2	1.5	+7.7
Pneumonia (lobar).....	Cases.. 226	201	+25	345.3	308.4	+36.9
	Deaths. 83	43	+40	126.8	66.0	+60.8
Scarlet fever.....	Cases.. 423	369	+54	646.4	566.2	+80.2
	Deaths. 5	6	—1	7.6	9.2	—1.6
Tuberculosis (pulmonary).....	Cases.. 130	152	—22	198.6	233.2	—34.6
	Deaths. 48	34	+14	73.3	52.2	+21.1
Tuberculosis (other forms).....	Cases.. 27	26	+1	41.2	39.9	+1.3
	Deaths. 5	5	—	7.6	7.7	— .1
Typhoid fever.....	Cases.. 6	2	+4	9.2	3.1	+6.1
	Deaths. —	—	—	—	—	—
Whooping cough.....	Cases.. 151	364	—213	230.7	558.6	—327.9
	Deaths. 1	1	—	1.5	1.5	—

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

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MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

VOL. 20.

BOSTON, MARCH, 1931.

NO. 3

A MODIFIED LOEFFLER'S BLOOD SERUM MEDIUM, USEFUL IN THE ROUTINE HEALTH DEPARTMENT EXAMINATION FOR THE DIPHTHERIA AND STREPTOCOCCUS INFECTIONS.*

LEON S. MEDALIA, KARL R. BAILEY and CATHARINE ATWOOD,
Bacteriological Laboratory, Health Department, City of Boston.

Received for publication August 25, 1930.

INTRODUCTION.

The shortcomings of Loeffler's blood serum for the laboratory diagnosis of diphtheria were brought home to one of us (Medalia) while chief of the laboratory and infectious diseases service at a base hospital and divisional camp during the war, when an outbreak of diphtheria occurred. The contacts, sometimes as many as 500 to 750 men (two or three companies), had to be cultured. Since the diagnosis was based upon microscopic examination the amount of labor entailed is obvious. In addition to the actual labor required in the microscopic examination of so many cultures, there was the difficulty of securing agreement among fairly well trained

* The article in full appeared in the "Journal of Bacteriology," Vol. XXI, No. 2, February, 1931, reprints of which may be obtained upon request.

technicians as to the positive and negative smears. The discrepancies in the findings of the laboratory workers occurred in connection with release cultures, mainly because of the scarcity of diphtheria organisms in such cultures.

On the other hand, in the cultivation for typhoid carriers among food handlers, or in cases of epidemic meningitis, where similar routine examination of contacts had to be done, the work, because of special differential media aiding the identification of these two organisms with the naked eye by their characteristic growth on the media, was fairly simple. It naturally suggested itself that if a special medium could be found, preferably a transparent medium, which would permit the identification of *C. diphtheriae* by the appearance of the colonies on plates, as is true in typhoid and meningitis, or if the selective character of the medium would grow *C. diphtheriae* more luxuriantly or to the exclusion of the other throat organisms, the work in such emergencies would be greatly reduced and possibly better results obtained.

A culture medium then which will grow the *C. diphtheriae* more readily and to the exclusion of other throat organisms, more especially the staphylococci as compared with the ordinary Loeffler's medium would, we believed, also eliminate the greatest source of error in diagnosis and release cultures. This, in turn, should help to overcome the endemic prevalence of diphtheria brought about by overlooking cases of diphtheria and by releasing a number of convalescents too soon. Such a culture medium would also tend to prevent the bitter experience met with occasionally when a child comes home from the contagious hospital supposedly recovered from diphtheria, having been released following three or more negative cultures as required, and a few days later another child in the same household comes down with diphtheria.

The scarcity of growth of *C. diphtheriae* on the ordinary Loeffler's medium and the overgrowth of the cultures by other bacteria is a recognized factor responsible for errors in diagnosis. This scarcity of growth is referred to by Belding and Fogel as one of the factors responsible for the 43 per cent error found by them.

These sources of error are what we hope to avoid with the culture medium here reported. Such advantages, together with the simplicity of preparation of this culture medium, since it is only a modification of the routine Loeffler's medium, should make it *the* culture medium for use as a routine in laboratory diagnoses and release cultures of diphtheria.

The routine diphtheria culturing for diagnosis in the City of Boston has been done at this laboratory with Loeffler's blood serum,

prepared from pig serum three parts, beef heart infusion one part, to which are added 1 per cent peptone, 1 per cent glucose and 5 per cent glycerol. The broth is titrated to 0.8 per cent acid.

Since 1927, the pH colorimetric method (Medalia, 1920 and 1922) has been used in this laboratory and the broth standardized to pH 7.2, in place of the titration method.

The serum broth mixture is poured in sterile tubes, slanted and coagulated and sterilized at the same time in the autoclave by heating it at fifteen pounds pressure for one hour.

The search for an improved medium was started by one of us (Medalia) in 1920. These experiments were carried on in the research laboratory of the Department of Biology and Public Health of the Massachusetts Institute of Technology. It was soon discovered that in order to duplicate a culture medium, the first prerequisite was the possibility of titrating the culture medium by the pH method, by means of which it is possible to determine the true reaction of the medium. This resulted in the study of the colorimetric method of titration and the development of the method published by Medalia (1920 and 1922).

The actual development of the special culture medium here reported was accomplished at the Bacteriological Laboratory of the Health Department of the City of Boston, where there was opportunity for testing such a special medium on a large scale in the routine examination of diphtheria cultures. The medium was also tested in a controlled study of cultures obtained at the South Department of the Boston City Hospital and in another controlled study of cultures obtained at the Haynes Memorial Hospital for Contagious Diseases.

This report, therefore, deals with three distinct studies: On the one hand, with 2,297 cultures obtained by placing the special medium in the same diphtheria outfit which is used by the physicians, with a request to the physicians to plant both media simultaneously. Over this study we had no complete control. We could not positively tell that all such cultures were planted as we requested. On the other hand, the other two studies deal with definitely controlled cultures, which were taken at the South Department of the Boston City Hospital, from newly arrived cases, as well as those cultured for release and others, and at the Haynes Memorial Hospital for Contagious Diseases. The swabs obtained from the nose and throat were placed in a tube containing 2 cc. of nutrient broth. These swabs were washed in the broth and discarded; fresh sterile swabs were then used for making comparative cultures on the routine Loeffler's media and the modified Loeffler's media. These cultures were incubated under identical conditions, were smeared

and stained in exactly the same way, and examined by three and sometimes by four different laboratory workers. The results obtained in these last two studies, we feel, are of definite value.

Following a comparative study of cultures made on six different media by planting a mixture of laboratory bacteria (*Staphylococcus aureus*, *Staph. albus*, *Streptococcus*, *Pneumococcus*, with *C. diphtheriae*), it was found that the media containing the NaOH (pH 7.6) with or without the glycerol, were far superior to any of the others.

It was also found that the beef extract broth serum mixture containing the NaOH was in all respects similar to the one made with the beef infusion broth. Consequently, the medium decided upon was that made up of: Beef extract broth, Ph 7.2, 1 part, containing 1 per cent glucose, 5 per cent glycerol, pig serum pH6.8, 3 parts; to which was added 4.5 per cent N/1 NaOH, the final pH of the mixture being 7.6. We decided upon the use of the pig serum because the beef and horse sera were found unsatisfactory for the preparation of modified Loeffler's, since they yielded too soft a media for routine use. The pig serum we found could easily be obtained fresh from the nearest abattoir by giving one day's notice. It is also more economical as compared with beef or horse serum.

The advantage of this last medium over all others tested is that it grows *C. diphtheriae* very luxuriantly and almost in a selective way, while the other media, not containing 4.5 per cent N/1 NaOH, were overgrown by staphylococci, showing only a rare organism of *C. diphtheriae*. On the modified Loeffler's containing the NaOH *C. diphtheriae* were very abundant and very easy to detect in stained smears. The glycerol was retained because it prevents the drying of the media when kept for a long time, as occasionally happens in the seventy-three different Board of Health culture stations and Health Units. This mixture when put in a tube and coagulated, gave an opalescent, semi-transparent medium, which readily withstood the rough use of swab planting, in some respects even better than the routine Loeffler's medium.

That being done, we were ready to undertake the study of testing this medium in the actual culturing of patients in the routine diagnoses or release cultures of the Health Department Laboratory. For that purpose, we placed two culture tubes, of the "special" and "routine" media, together with the swab, in the diphtheria outfits, with a request to the physician to plant both culture tubes at the same time.

TABLE 1.

Comparison of 2,297 diphtheria cultures grown on routine Loeffler's serum and on modified Loeffler's submitted for examination in laboratory outfits by physicians.

ROUTINE LOEFFLER'S SERUM, 2,297 CULTURES.				MODIFIED LOEFFLER'S SERUM, 2,297 CULTURES.			
Positive.	Negative.	Suspicious.	No growth or contaminated.	Positive.	Negative.	Suspicious.	No growth or contaminated.
220	2,008	34	35	306	1,872	32	87
9.6%	87.4%	1.5%	1.5%	13.3%	81.5%	1.5%	3.7%

Of the above number of positive cultures 29, or 1.3 per cent, were found to be practically pure cultures of *C. diphtheriae* on the modified Loeffler's, while only a rare or a few organisms developed on the routine Loeffler's. This was particularly noted in cultures taken for release.

The greater number of "no growth" or "scanty growth" cultures on the modified Loeffler's may be attributed to the fact that frequently physicians failed to plant both sera, using only the accustomed Loeffler's tube. Contaminated cultures were rare, and then occurring in both cultures.

This study comprises 2,297 routine cultures made by the physicians, or by the medical inspectors and district nurses for diagnosis of suspected cases and of contacts as well as for release cases.

The medical inspectors and nurses on the districts have been taking the release cultures in this study as they usually do and planting them on both culture media. Better control over the work was, of course, possible when the medical inspectors and nurses did the culturing rather than when the private practitioners did it. However, in order to verify these results a comparative study under absolute control was undertaken, which will be described later.

Table 1 represents a study of the 2,297 cultures sent to the Health Department Laboratory by the private practitioners, medical inspectors and nurses. Out of this number there were 220 "positives," or 9.6 per cent, on the routine Loeffler's and 306, or 13.3 per cent, "positives" on the modified Loeffler's, which is higher by approximately 33 per cent. The more important fact, however, which is not brought out by merely studying the figures of the table, is that the modified Loeffler's, because of the more luxuriant growth of *C. diphtheriae* and the ease of detecting the organism microscopically, enabled the diagnosis to be made in a very short time, while it took a considerably longer time and was much more difficult to reach a conclusion when examination was made of the routine Loeffler's. In fact, out of the total number of positive cultures, there were on the modified Loeffler's 29, or 1.3 per cent, which were practically pure cultures of *C. diphtheriae*, while only an

occasional or rare organism was found on the routine Loeffler's. This was particularly true in the cultures taken for release.

The number of "suspicious" cultures was about the same on both media. The greater number of "no growth" or "scanty growth" on the modified Loeffler's may be accounted for by the fact that the physicians failed to plant both media, using only the routine media to which they were accustomed, and which had the label, while the modified Loeffler's did not have such a label.

There rarely was a case where the *C. diphtheriae* was positive on the routine Loeffler's and negative on the modified medium.

Another important finding in this study of the 2,297 cultures was the ease with which the streptococcus grows on this medium. Since the finding of streptococci has to be reported by the laboratory to the physicians, a careful record was kept of such findings parallel with the finding of *C. diphtheriae*. The results were astonishing, namely: only 11, or 0.5 per cent, of the total number showed the presence of streptococci on the routine Loeffler's, while 133, or 6.2 per cent, showed the presence of streptococci as a predominating organism on the modified Loeffler's.

As already referred to, the results of the study just described, dealing with comparative cultures obtained at the Laboratory in a routine way, were not considered by us to be entirely satisfactory because of our inability to control the culturing. There might, for instance, have been cases where some practitioners, in spite of the request to plant the two culture media alike, planted one with the swab obtained from the throat and the other with one obtained from the nose. Although we have tried always to check up in those cases, when a positive was found on the modified Loeffler's and a negative on the routine Loeffler's, still we were not satisfied that this could be considered an absolutely controlled piece of work. We, therefore, undertook the following study.

TABLE 2.

Comparison of 2,297 cultures of table 1 grown on the routine Loeffler's and the modified Loeffler's media with relation to their respective ability to grow the streptococcus.

ROUTINE LOEFFLER'S SERUM, 2,297 CULTURES—STREPTOCOCCUS.	MODIFIED LOEFFLER'S SERUM, 2,297 CULTURES—STREPTOCOCCUS.
11	133
0.5%	6.2%

It will be noted that modified Loeffler's permits the growth of a much larger percentage of streptococcus cultures than the routine Loeffler's.

TABLE 3.

Comparison of 494 diphtheria cultures planted simultaneously on two media in the laboratory.

ROUTINE LOEFFLER'S MEDIA, 494 CULTURES.				MODIFIED LOEFFLER'S MEDIA, 494 CULTURES.			
Positive.	Negative.	Suspicious.	No growth or contaminated.	Positive.	Negative.	Suspicious.	No growth or contaminated.
20	457	9	8	85	372	19	18
4.04%	92.5%	1.8%	1.7%	17.2%	75.4%	3.8%	3.6%

This study was controlled at every step.

It will be noted that the modified Loeffler's media grew over four times as many "positives" as the routine Loeffler's. The growth was far more abundant and in some instances almost a pure culture of *C. diphtheriae*.

The cultures were made at the South Department of the Boston City Hospital. The swabs, one from the throat and one from the nose, were placed in a tube containing 2 cc. of nutrient broth. These swabs, when brought to the Laboratory in the broth, were carefully washed in this broth and removed from it and discarded. A fresh sterile swab was used to plant each of the routine and modified media, properly labeled and incubated over night. They were then smeared, stained, and examined microscopically by at least three different Laboratory workers, and sometimes four. Table 3 gives the result of this study.

TABLE 4.

Comparison of 189 diphtheria cultures planted simultaneously on three media in the laboratory.

LABORATORY LOEFFLER'S MEDIA, 189 CULTURES.				HOSPITAL LOEFFLER'S MEDIA, 189 CULTURES.				MODIFIED LOEFFLER'S MEDIA, 189 CULTURES.			
Positive.	Negative.	Suspicious.	No growth or contaminated.	Positive.	Negative.	Suspicious.	No growth or contaminated.	Positive.	Negative.	Suspicious.	No growth or contaminated.
7	179	2	1	20	165	3	1	34	149	4	2
3.7%	94.7%	1.1%	0.5%	11.0%	87.0%	1.5%	0.5%	18.1%	78.7%	2.1%	1.1%

This is another controlled study on three different media.

The modified Loeffler's again showed over four times as many "positives" as the routine Loeffler's.

The Hospital media to which is added NaOH until it reaches a definite pink to phenolphthalein made a better showing but is not up to the modified Loeffler's in character of growth nor in number of "positives."

It will be seen that this study was controlled at every step, namely, the broth was used merely to wash the nose and throat swabs; fresh sterile swabs were used to plant from the broth onto the culture media, which were studied. The media were incubated under exactly the same conditions, stained and examined in a similar way.

A second controlled, comparative study was also made by using, not only the routine Loeffler's medium of the Board of Health Laboratory alongside the new medium, but also by using the Hospital Loeffler's serum. Table 4 gives the result of this study, which was carried out in exactly the same manner described for the one reported in table 3.

A critical examination of table 3, which represents the controlled study on the two media, shows that there were 494 cultures, of which 20, or 4 per cent, were found positive on the routine medium, as against 85, or 17.2 per cent, positives on the modified Loeffler's. The "suspicious" cultures in this study were 9, or 1.8 per cent, on the routine, and 19, or 3.8 per cent, on the modified Loeffler's media.

The streptococcus findings were not included in this study. It was limited to diphtheria only. The positives on the modified Loeffler's, according to our findings, are over four times those found on the routine Loeffler's, the significance of which speaks for itself.

Table 4, which represents another controlled study on three different media instead of two, shows again the value of the modified Loeffler's medium for the growth of the *C. diphtheriae*. Here we find 7 positives, or 3.7 per cent, in a total of 189 cultures, on the routine media, while the modified Loeffler's shows 34, or 18 per cent, positives, which is again $4\frac{1}{2}$ times as many positives as on the routine. The "suspicious" findings here too were twice as many as on the routine media. The Hospital media made a better showing in this study than the routine: 20 positives, or 11 per cent, out of the total 189, as against 3.7 per cent on the routine, and 18.1 per cent on the modified media. Upon investigation we found that the Hospital media contained NaOH, which was added by testing the regular pig serum-broth mixture to a drop of phenolphthalein on a porcelain plate. Enough normal NaOH was added so that the indicator turned a definite pink. In case too much NaOH had been added, HCl was used until the desired pink was obtained.

The method of titration just described, as followed in the preparation of the Hospital medium, is unreliable because this method does not yield the same pH for the media prepared at different times. However, even at that, the results of growing *C. diphtheriae* were better than without the addition of the NaOH. The use of the pH

method in the preparation of any media is now recognized as the standard reliable way of obtaining a culture medium which can be duplicated at all times.

Another study was carried out with cultures obtained at the Haynes Memorial Hospital for Contagious Diseases by a student of Boston University, Elizabeth Goodman, to whom we are indebted for this work.

The swabs were placed in 2 cc. nutrient broth. The secretions were washed off them and the original swabs discarded. Fresh sterile swabs were used to make cultures on the routine Loeffler's and the modified Loeffler's. They were incubated, stained, and examined in identically the same way. The work as a whole was done in a similar manner to that employed in the studies referred to in tables 3 and 4.

TABLE 5.

Comparison of 176 diphtheria cultures planted simultaneously on two media in the laboratory.

ROUTINE LOEFFLER'S MEDIA, 176 CULTURES.			MODIFIED LOEFFLER'S MEDIA, 176 CULTURES.		
Positive.	Negative.	Occasional or suspicious.	Positive.	Negative.	Occasional or suspicious.
4	167	5	15	156	5
2.2%	95%	2.8%	8.5%	88.7%	2.8%

This is another controlled study carried out in a different hospital by another worker.

It will be noted that here too the modified Loeffler's showed four times as many "positives" as the routine Loeffler's.

Table 5 gives the results of this study. There were 176 cultures planted simultaneously on the two media. There were four positives, or 2.2 per cent, on the routine Loeffler's medium, while there were 15 positives, or 8.5 per cent, on the modified Loeffler's. In this study, as in the other two controlled studies, the modified Loeffler's showed more than four times as many positives as the routine Loeffler's. Here, too, the striking factor was not merely the greater number of positives in the modified Loeffler's, but the greater abundance of growth as compared with that on the routine Loeffler's, which means greater ease of diagnosis when the modified Loeffler's is used.

In the light of our findings, showing the great sensitiveness to changes in pH of culture media of the bacteria here considered, *C. diphtheriae* and particularly the streptococci, we feel that the methods used in some laboratories, of determining the pH by merely

adding a few drops of phenol red to a solution and guessing the pH by the change of color produced in the solution is unreliable. We found brom thymol blue to be the best and most reliable indicator and the use of the method with the color standards as described by Medalia (1920 and 1922) almost as easy as the indiscriminate use of a few drops of phenol red.

The use of brom thymol blue with the color standards and the "comparator" block permits the definite determination of the pH within 0.1 of a pH; but what is more important, the method permits the use of additional tubes to offset the color of the culture medium and also to determine whether the particular indicator can be used at all.

We found, for instance, that phenol red does not permit the matching of color in the preparation of the Loeffler's or the modified Loeffler's media, possibly because of the "protein" or "salt" error in the serum. This difficulty is overcome by the use of brom thymol blue. The importance of definitely determining the pH in culture media is brought home by this study since, in such a highly buffered medium as we have used, the difference of 0.4 pH between the two media has made such a marked change in the growing of *C. diphtheriae*, yielding four times as many positives and growing it almost in a selective way, while the streptococci grew more than twelve times as often as on the *routine* media.

SUMMARY.

A blood serum medium has been described, which is almost a selective culture medium for *C. diphtheriae*. It is easy to prepare, since it is only Loeffler's medium, modified by the addition of 4.5 per cent N/1 NaOH yielding a final pH of 7.6 using brom thymol blue as an indicator.

The possibility of checking the reaction in the final mixture by the pH "colorimetric" method (Medalia, 1920 and 1922) makes this culture medium easy to duplicate and yields uniform results.

In definitely controlled studies (tables 3, 4, and 5), the positive findings on the modified Loeffler's medium are more than four times as many as on the routine medium. The ease with which this modified Loeffler's grows *C. diphtheriae*, almost in a selective way, permits the examination to be made in a much shorter time and the positives are more readily discernible.

From the standpoint of the Health Department Laboratory examination, this culture medium has also been of great value because of the ease with which it grows the streptococcus; in a

study of 2,297 cultures (table 2), where on the routine Loeffler's medium only 0.5 per cent streptococci were found predominating, on the modified Loeffler's 6.2 per cent were found.

The modified Loeffler's culture medium here described is therefore, we feel a very valuable one for the routine examination of diphtheria and streptococcus organisms, and we especially recommend it to Health Department Laboratories for this purpose.

In concluding, we wish to express our appreciation and thanks to Dr. Francis X. Mahoney, Health Commissioner, City of Boston, to Professor Hans Zinsser of Harvard, Dr. D. L. Belding of Boston University, Dr. Edwin H. Place of the Contagious Department of the Boston City Hospital, Dr. Conrad Wesselhoeft of the Haynes Memorial Hospital for Contagious Diseases, and J. Etta Mullen, Bacteriologist, Health Department, through whose kindly advice and sympathetic cooperation this study was made possible.

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PLATE 1.

Swabs were taken from nose and throat washed in 2 cc. of bouillon and cultured simultaneously with fresh sterile swabs on routine Loeffler's media and modified Loeffler's media.

FIG. 1. Microphotograph of the growth on the routine Loeffler's media showing occasional *C. diphtheriae* with a large number of other organisms both staphylococci and bacilli.

FIG. 2. Microphotograph of the same culture as figure 1 grown on the modified Loeffler's media. This proved to be almost a pure growth of *C. diphtheriae*.

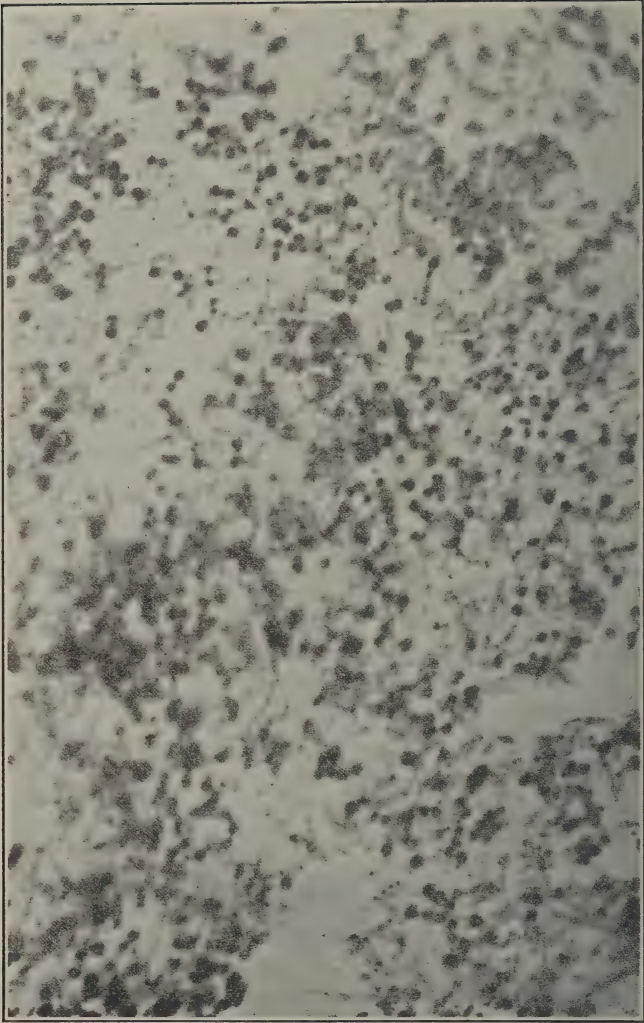


FIG. 1

(L. S. Medalia *et al.*: Modified Loeffler's blood serum medium.)

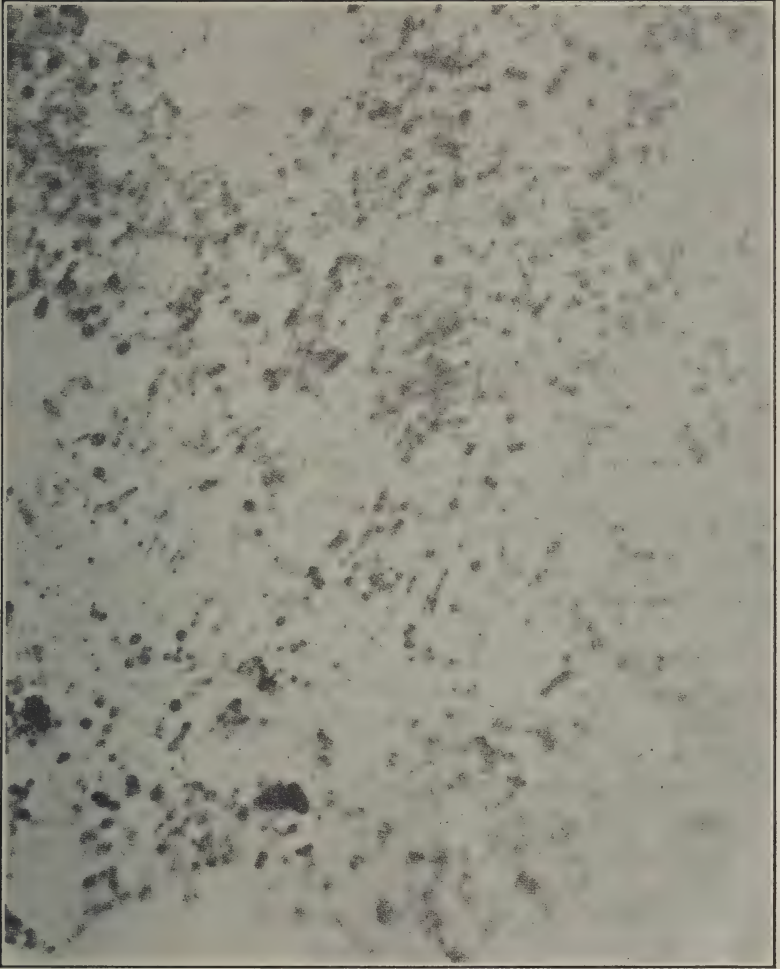


FIG. 2

(L. S. Medalia *et al.*: Modified Loeffler's blood serum medium.)

PSITTACOSIS.

The cases of psittacosis which developed in the United States during the recent outbreak (1929-30) were largely attributable to contact with birds imported during November and December, 1929. One hundred and sixty-nine cases of the disease with thirty-three deaths were recorded in this outbreak.

An intensive search for the bacillus psittacosis, formerly described as the cause of the disease, was made in the carcasses and excretions from parrots that were shipped to the National Institute of Health of the Public Health Service, in experimentally infected and in normal parrots and parrakeets, and in material obtained from human cases. No strain of bacillus psittacosis or of any other member of the related group of bacteria was found.

Evidence was secured, however, suggesting that the causative agent of psittacosis in birds is filtrable.—*United States Public Health Service Bulletin, January 9, 1931.*

DISINFECTION OF SICK ROOM.

If due care as to cleanliness of sick room has been taken during the course of the illness, disinfection after the recovery of the patient will be very much easier. In any case, after the recovery of the patient, bed covering should be spread about so as to "air" the bed; closet doors and bureau drawers should be opened, and then windows and doors leading into the open air should be thrown wide open for twenty-four hours or more. Then proceed to remove from the room for destruction such articles as are to be destroyed, and give the room generally a thorough "housecleaning." A vacuum cleaner should be used on carpets, rugs and furniture preferably after they have been taken out of doors in the open air. Rugs and hangings, if any have been in the room, should be exposed to the sunshine and fresh air; floors and woodwork should be thoroughly scrubbed with soap and water and afterwards, together with the furniture, should be wiped off with a damp cloth which has been wet and wrung out in a bichloride of mercury solution, 1 to 1,000, made by adding one standard seven and one half grain bichloride tablet to each pint of water. If the scrubbing, sunning, and airing be done with care, and if precautions advised against infection of the room during the illness have been followed, the room will be reasonably safe for occupancy. Additional safeguards may be taken, however, by washing up floors and woodwork with a bichloride of mercury solution suggested above, and wiping off the walls with a cloth dampened with that solution. Whitewashing can then be done with advantage, and if the paper is in any way in poor condition it had best be replaced.

HOME ACCIDENTS.

The deputy secretary of health, Dr. J. Bruce McCreary, recently issued a warning on the hazard of home accidents.

"Naturally the subject of automobile accidents in the United States receives much attention. The consistent increase in their number and the spectacular manner in which such casualties are occasioned attract human interest and newspaper reporters," said Doctor McCreary.

"It may be surprising, however, to know that in 1929 the automobile fatalities were 31,500, while the home accident deaths for the same period reached the amazing total of 24,000. Another outstanding fact is that for each automobile fatality there were approximately thirty-five known injuries; but for each home accident death there were approximately 200 injuries. Which rather eloquently indicates that homes as well as the highways are at present responsible for much damage to American citizens. In most instances, carelessness seems to be the primary cause."

—*Pennsylvania Department Health Bulletin, September, 1930.*

Those who are endowed with a robust frame, sturdy physique, sound functions, a good constitution, and hereditary advantages, must also learn the limits to which the human machine may be driven without permanent harm. — *M. J. Rosenau, M. D.*

SUMMARY OF WORK, FEBRUARY, 1931.

ADMINISTRATION DIVISION.

Legal notices	68	Contract approved	1
Prosecution ordered	1	Hearings	2
Settlements:		Personnel:	
Total cases	166	Leaves of absence	2
Notices	122	Temporary appointment	1
Bills	44		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,210	Dump permits approved	3
Denatured alcohol approved	42	Garbage transportation ap- proved	8
Hen licenses approved	2	Milk licenses approved	98
Massage-manicure approved	45	Pedlers' licenses approved	17
Ice cream dealers approved	31	Stable permit approved	1
Ice cream manufacturer ap- proved	1	Pasteurization of milk approved,	1

MEDICAL DIVISION.

Reported cases	2,251	Visits:	
Nonresidents	415	By V. D. investigator	328
Deaths investigated	73	By medical inspectors to cases of communicable disease	505

BACTERIOLOGICAL LABORATORY DIVISION.

DIPHTHERIA:

Positive for diagnosis	34	
Positive for release	61	
Negative for diagnosis	472	
Negative for release	92	
No growth cultures	51	
	—	710

DARK FIELD:

Positive	4	
Negative	1	
	—	5

GONORRHEAL OPHTHALMIA:

Negative	44	
Unsatisfactory	1	
	—	45

GONORRHEAL URETHRITIS:

Positive	140	
Negative	630	
	—	770

GENITO URINARY TUBERCULOSIS:

Positive	2	
Negative	5	
	—	7

MISCELLANEOUS EXAMINATIONS:

Positive	10	
Negative	38	
Unclassified	249	
	—	297

TUBERCULOSIS:

Positive	38	
Negative	364	
Unsatisfactory	4	
	—	460

TYPHOID:

Positive	1	
Negative	8	
Atypical	1	
	—	10

SYPHILIS:

Positive	109	
Negative	840	
Unsatisfactory	12	
Doubtful	15	
	—	976

Bacteriological milk examinations	704
Bacteriological ice cream examinations	4
Water from swimming pools examined	72

Total	4,060
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Smears for Vincent's angina, 11; unit urines, 249; urine for eberthella typhi, 11; feces for eberthella typhi, 11; park for organisms, 2; hamburg steak for organisms, 1; dish water for organisms, 1; virulence tests, 5; corned shoulder for organisms, 1; lobster meat for molds, 1; feces for T. B., 1; corned beef for organisms, 1; blood for streptococci, 1; blood culture for organisms, 1.

FOOD DIVISION.

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during February, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association, using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.....	12.38	3.75	25,000
Antetomasso, Peter.....	12.76	3.97	10,000
Bradley, T. J. & P. J.....	12.62	4.10	1,600
Buxton, William E.*.....	14.00	4.90	2,500
Casey, James D.....	12.75	4.08	12,000
Cashin, J. F., & Co.....	12.73	4.10	10,000
Cedar Hill Farm, Inc.*.....	12.83	4.33	250
Chapin, George L.....	12.71	4.05	1,500
Clark, Levi.....	12.46	4.00	11,000
Corkery, John J.....	12.65	3.90	24,000
Cosgrove, Martin S.....	12.85	4.12	31,000
Daley, John.....	12.12	3.60	275
Dean, Louis W.*.....	13.53	4.47	9,000
Deerfoot Farm Company.....	12.97	4.18	8,000
Denehy, Timothy.....	12.67	3.87	22,000
Driscoll, William B., Company.....	12.55	3.90	8,000
Elm Spring Farm Company.....	12.27	3.76	23,000
Ferguson, Malcolm D.....	12.49	3.80	39,000
Garfield, Mason*.....	14.90	5.55	600
Garvin, Charles.....	13.80	4.88	7,500
Giroux, J. E. and H. J.....	12.64	3.88	23,000
Griffin, Joseph L.....	12.77	3.94	11,000

* All milk from tuberculin tested cows.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Gushee, Chester W.....	12.64	3.90	21,000
Hampden Creamery Company.....	13.05	4.10	14,000
Herlihy Brothers, Inc.....	12.49	3.78	20,000
Hickey, J. B.....	12.43	3.90	23,000
Holden, John E.....	12.36	3.80	11,000
Hood, H. P., & Sons, Inc.....	12.50	3.87	12,000
Hutchinson, Frank T.....	12.97	4.32	17,000
Jones, William T., Company.....	12.66	3.85	13,000
Kendall Brothers.....	12.31	3.70	6,000
Kingston Brothers.....	12.72	4.02	17,000
Knapp, George J.*.....	12.53	3.79	12,000
Lang Brothers.....	12.50	3.90	36,000
Larsson, Charles.....	12.80	3.88	55,000
Lyndonville Creamery Association.....	12.96	4.19	15,000
Lyons, William A.....	12.74	4.08	39,000
Manning, Harriet.....	12.89	4.15	35,000
McAdams, J. F., & Brothers, Inc.....	12.81	3.90	20,000
McKernan, John.....	12.76	3.95	13,000
New England Creamery Products Company*.....	12.79	4.10	14,000
Prescott, J. B., & Co.....	12.31	3.80	20,000
Robinson, A. J.....	12.97	4.07	42,000
Schuster, Adam.....	13.06	4.10	14,000
Seven Oaks Dairy Company.....	12.53	3.79	50,000
Shawsheen Dairy, Inc.....	13.20	4.27	16,000
Shick, Jacob.....	12.31	3.68	23,000
Somerset Farm Creamery Company.....	12.75	4.20	10,000
Sterling Farm Milk Company.....	12.72	3.88	10,000
Stone, H. L.....	12.20	3.70	30,000
Stuart, W. E., & Co.....	12.52	3.90	31,000
Turner Centre System, Inc.....	12.32	3.75	14,000
United Farmers Cooperative Creamery Association, Inc....	12.77	4.04	11,000
Walker-Gordon Laboratory Company*†.....	12.68	4.10	50
Weiler, E., & Son.....	12.57	3.89	42,000
Westwood Farm Milk Company.....	12.35	3.87	21,000
White Brothers.....	12.73	4.00	17,000
Whiting Milk Companies.....	12.43	3.83	19,000
Whittemore, W. D.....	12.98	4.10	12,000
Wiswall, Granville A.....	12.74	4.09	22,000
Woodland, Charles L.*.....	12.75	4.10	27,000

* All milk from tuberculin tested cows.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc...	12.50	3.73	17,000
M. Brown & Sons.....	Whiting Milk Companies...	12.47	3.75	18,000
The Cloverdale Company.....	Herlihy Brothers, Inc.....	12.37	3.72	29,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.....	12.36	3.67	31,000
First National Stores, Inc.....	Bellows Falls Cooperative Creamery Association.	12.88	4.07	12,000
Morgan Brothers Company.....	New England Creamery Products Company.	12.71	4.00	22,000
M. Winer Company.....	M. Winer Company.....	12.91	4.18	22,000

GRADE A MILK — PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.27	4.25	4,000
Cashin, J. F., & Co.....	12.91	4.60	9,000
Corkery, John J.....	13.92	4.85	17,000
Cosgrove, Martin S.....	13.57	4.58	23,000
Dean, Louis W.*.....	14.43	5.10	2,500
Elm Spring Farm Company.....	12.89	4.16	12,000
Griffin, Joseph L.....	12.98	4.20	8,000
Gushee, Chester W.....	13.19	4.38	10,000
Herlihy Brothers, Inc.....	12.73	4.45	15,000
Hood, H. P., & Sons, Inc.*.....	12.62	4.17	6,000
Jones, William T., Company.....	13.48	4.50	6,000
Lyndonville Creamery Association.....	13.60	4.60	18,000
McAdams, J. F., & Brothers, Inc.....	13.01	4.35	9,000
New England Creamery Products Company*.....	13.70	4.65	10,000
Robinson, A. J.....	12.98	4.13	1,500
Seven Oaks Dairy Company.....	13.23	4.30	2,000
Sterling Farm Milk Company.....	13.12	4.40	8,000
Turner Centre System, Inc.....	12.45	4.10	9,000
White Brothers.....	12.98	4.50	9,000
Whiting Milk Companies*.....	12.58	4.18	7,000
Woodland, Charles L.*.....	13.83	4.90	42,000

* All milk from tuberculin tested cows.

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from tuberculin tested cows.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farm Company.....	Alta Crest.....	13.92	4.78	1,500
Hood, H. P., & Sons, Inc.*.....	Own.....	13.70	4.75	1,000
Walker-Gordon Laboratory Company.*	Own.....	12.84	4.10	1,100
Whiting Milk Companies.....	Hampshire Hills.....	12.96	4.10	1,000

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.*.....	Own.....	13.91	4.73	100

* All cows tested and reported free from infectious abortion.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	304
Milk from stores	613
Vinegar	19
Ice cream	1
Miscellaneous	6

Samples referred to Bacteriological Laboratory for examination:

Milk	704
Ice cream	4

DAIRY DIVISION.

Total services	4,821	Total cattle inspected	2,095
Dairies inspected	128	Inspection of milk plants and	
Scoring above 50 *	118	licensed dealers	190
Scoring below	10	Country creamery inspections	12
With milk rooms	122	Sediment tests	1,863
Without milk rooms	6	Investigations of high bacterial	
Inactive	2	counts	4

* Passable mark.

FOOD INSPECTION DIVISION.

February, 1931.

District inspections	3,783
Reinspections	499
Market inspections	1,064
Terminal inspections*	563
Vehicle inspections	2,751
Stand inspections	1,421
Complaints	45
Notices to abate	187
Condemnations	23
Pedler Service:	
Numbers assigned	22
Licenses certified	67
Vehicles approved	504

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	2,910	Parts condemned	1,218
Calves inspected	2,924	Animals condemned	43
Swine inspected	4,274	Total of meat condemnations	
Sheep inspected	422	(pounds)	26,438

SANITARY DIVISION.

Original inspections	2,866	Complaints investigated	446
Causes for action found	1,507	Nuisances abated	1,460
Reinspections	5,520	Routine inspections	3,043
Legal notices served	66		

RAW FOODS IN THE DIET.

While some uncooked fruits and vegetables are essential in a well-balanced ration, man cannot subsist on such materials alone under optimal conditions of physiologic economy. The old precept that a little knowledge is a dangerous thing is nowhere more applicable than in the field of practical dietetics.

As further contributions are made, it becomes evident that each principle must be followed, not without consideration of previously established facts but rather with an attempt to harmonize each with the other.

— *From an editorial in the "Journal of the American Medical Association," of January 31, 1931.*

TUBERCULOSIS DIVISION.

In the month of February, 1931, there were 109 clinic sessions held at the various units.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF CASES AT CLINIC.			TOTAL NUMBER OF NEW CASES AT CLINIC.		
		Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	14	142	127	269	35	36	71
East Boston.....	12	69	83	152	13	21	34
North End.....	11	36	102	138	10	14	24
West End.....	11	47	57	104	6	5	11
South Boston.....	11	60	81	141	15	12	27
Boston Dispensary.....	7	21	16	37	8	8	16
Brighton.....	7	8	7	15	2	—	2
Charlestown.....	8	37	75	112	9	19	28
Codman Square.....	12	94	127	221	13	18	31
Hyde Park.....	8	29	56	85	4	2	6
Arcadia Street.....	4	24	43	67	4	3	7
Roxbury.....	4	65	94	159	15	18	33
Totals.....	109	632	868	1,500	134	156	290

	Von Pirquet.	Wassermann.	Lamp.	X-Ray.
South End.....	42	41	113	126
East Boston.....	27	10	—	44
North End.....	19	7	—	26
West End.....	6	9	—	35
South Boston.....	27	9	137	53
Boston Dispensary.....	13	4	—	—
Brighton.....	—	1	—	—
Charlestown.....	22	5	—	33
Codman Square.....	32	12	—	—
Hyde Park.....	6	3	—	—
Arcadia Street.....	4	3	—	—
Roxbury.....	20	17	—	37
Totals.....	218	121	250	354

CHILD HYGIENE DIVISION.

Report of Medical Inspection of Parochial Schools, February, 1931.

Schools visited	176
Number of children seen	2,237
Number of children excluded	43
Number of children readmitted	867
Number of children examined	156

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING FEBRUARY, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	11	26.19
Seven days or less.....	5	11.91
Eight to fourteen days, inclusive.....	2	4.76
Fifteen to twenty-one days, inclusive.....	2	4.76
Twenty-two to thirty-one days, inclusive.....	—	—
WITHIN FIRST MONTH. (Total).....	20	47.62
Within second month.....	1	2.38
Within third month.....	1	2.38
Within fourth month.....	2	4.76
Within fifth month.....	—	—
Within sixth month.....	4	9.52
Within seven month.....	—	—
Within eighth month.....	2	4.76
Within ninth month.....	—	—
Within tenth month.....	1	2.38
Within eleventh month.....	—	—
Within twelve month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	31	73.80
Within second year.....	5	11.91
Within third year.....	—	—
More than three years.....	6	14.29
Grand totals.....	42	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF FEBRUARY, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	8	17	13	13
North Reading State Sanatorium.....	1	5	—	1
Lakeville State Sanatorium.....	4	5	2	2
Rutland State Sanatorium.....	1	2	1	—
Westfield State Sanatorium.....	—	2	—	2
Tewksbury.....	1	1	—	—
Totals.....	15	32	16	18
PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	2
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	2	—	2	—
Doctor Crane's Sanatorium.....	—	—	—	—
Totals.....	2	—	2	2

CHILD HYGIENE DIVISION.

Report of Medical Inspectors, February, 1931.

Inspections	68
Physical examinations	99
Schick tests	15
Toxin-antitoxin	173
Vaccinations at units	46
Vaccination certificates	38
Day nursery visits	7
Conferences	17

Report of Child Health Conferences, February, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall	131	10	141	15	1	16	4	35
Lincoln street	86	5	91	7	—	7	4	23
Charlestown	210	10	220	20	1	21	7	31
Codman square	278	34	312	52	—	52	7	45
Columbia road	215	10	225	26	1	27	6	38
Arcadia street	290	17	307	37	2	39	8	38
East Boston	250	12	262	62	3	65	7	37
Hyde Park	163	22	185	25	2	27	8	23
Jamaica Plain	175	16	191	32	1	33	4	48
North End	155	47	202	23	2	25	8	25
Rosindale	170	23	193	20	1	21	3	64
Roxbury	349	30	379	42	1	43	10	38
Children's Hospital	118	8	126	14	3	17	4	32
South Boston	259	32	291	39	5	44	8	36
South End	198	13	211	28	4	32	8	26
Tyler street	91	11	102	17	—	17	4	26
West End	287	40	327	35	—	35	7	47
1049 Columbus avenue	308	28	336	43	4	47	8	42
Totals	3,733	368	4,101	537	31	568	115	36

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, FEBRUARY, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall	—	1	3	4	3
Lincoln street	—	—	2	2	—
Charlestown	15	16	14	45	6
Codman square	18	16	11	45	5
Columbia road	1	2	5	8	—
Arcadia street	2	2	2	6	7
East Boston	6	1	6	13	2
Hyde Park	13	11	4	28	3
Jamaica Plain	4	2	2	8	4
North End	1	2	—	3	1
Rosindale	5	7	3	15	3
Roxbury	13	7	7	27	8
Children's Hospital	6	7	7	20	4
Columbus avenue	5	2	—	7	13
South Boston	—	—	—	—	—
South End	1	—	1	2	2
Tyler street	—	1	3	4	2
West End	4	3	3	10	4
Totals	94	80	73	247	67

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, FEBRUARY, 1931.

UNIT.	1930.	1931.
West End.....	678	1,134
North End.....	565	1,236
South End.....	682	1,401
South Boston.....	1,100	1,706
East Boston.....	642	1,470
Charlestown.....	624*	1,116
Roxbury.....	820	1,182
Totals.....	5,111	9,245

* Opened December 17, 1929.

Increase in number of patients treated during February, 1931, over February, 1930, 2,455 patients, 60½ per cent.

COOPERATIVE HEALTH UNIT REPORT, FEBRUARY, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physicians.....	86				144	10	72	302
BOSTON LYING-IN HOSPITAL:								
Number of prenatal clinics.....	4	3	4	3	4	4	4	26
Attendance.....	25	65	45	17	62	30	42	286
New cases.....	7	16	27	4	19	16	16	105
COMMUNITY HEALTH ASSOCIATION:								
Homes visited.....	1,853	3,011			2,784	3,437	1,564	12,649
Cases referred.....	214					27		241
Diseases reported.....	1					4	4	9
Mothers' Club meetings.....	4	4			4	4	4	20
Attendance.....	33	43			61	93	79	309
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	4			3	4	4	19
Attendance.....	30	42			25	47	48	192
CHILDREN'S HOSPITAL:								
Infantile clinics.....	4	4			4	4		12
Attendance.....	33	19				17		69
New cases.....						1		1
STATE DEPARTMENT OF MENTAL								
HYGIENE:								
Habit-forming clinics.....							4	4
Attendance.....							33	33
New cases.....							4	4
AMERICAN RED CROSS:								
Home nursing classes.....					2			2
Attendance.....					26			26
BOY SCOUTS OF AMERICA:								
Meetings.....				2				2
Attendance.....				16				16
JEWISH WELFARE CENTER:								
Staff meetings.....							2	2
Attendance.....							55	55
HEALTH DEPARTMENT:								
Refraction Service:								
Number of refractions.....				91				91
Number of diagnoses.....				114				114
New glasses recommended.....				35				35
New cases.....				28				28
Nose and Throat Service:								
Clinics.....							3	3
Attendance.....							156	156
Operations recommended.....							63	63
Mothers' Club meetings (HDD)	1	1		1				3
Attendance.....	12	10		12				34

NURSING SERVICE.

REPORT FOR FEBRUARY, 1931.

HOMES VISITED	14,566
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CHILD HYGIENE:

Visits to new cases	1,078	
Visits to old cases	8,407	
	9,485	
Included are:		
Wrong addresses	59	
Not seen *	753	
	812	
Absent visits	812	

COMMUNICABLE DISEASES:

Visits to new cases	1,178	
Visits to old cases	1,957	
	3,135	
Included are:		
Wrong addresses	35	
Not seen *	48	
	83	
Absent visits	83	

TUBERCULOSIS:

Visits to new cases	178	
Visits to old cases	4,539	
	4,717	
Included are:		
Wrong addresses	30	
Not seen *	372	
	402	
Absent visits	402	
Positive cases visited	2,026	
Contact cases visited	1,829	
Suspect cases visited	460	
	4,315	

MISCELLANEOUS VISITS:

Patients accompanied to hospital	20	
Visits to day nurseries	52	
Visits to parochial schools	531	
	603	
	17,940	

	Hrs.	Min.
Hours in station by nurses	3,437	30
Hours at baby and pre-school conference	1,539	30
Hours at tuberculosis clinic	772	
Hours at nurses' conferences	59	
	5,808	

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, FEBRUARY, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING FEBRUARY,
1931, WITH COMPARATIVE FIGURES FOR FEBRUARY, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	1,086	976	+110	16.59	14.98	+1.61
Nonresidents deducted.....	890	788	+102	13.60	12.09	+1.51
BY AGE:						
Under one year.....	88	117	—29	1.34	1.79	— .45
One year to four years, inclusive.....	46	39	+7	.70	.60	+ .10
Sixty years and over.....	515	430	+85	7.87	6.60	+1.27
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,164	1,054	+110	17.79	16.17	+1.62
b. Registered stillbirths.....	30	28	+2	.46	.43	+ .03
Stillbirths per 1,000 live births and stillbirths.....	—	—	—	25.12	25.88	— .76
c. Deaths of mothers from causes incident to childbirth.....	16	17	—1	.24	.26	— .02
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	13.40	15.71	—2.31
d. Deaths in first year per 1,000 live births..	—	—	—	75.60	111.00	—35.40
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	43	29	+14	65.7	44.5	+21.2
Homicides.....	1	—	+1	1.5	—	+1.5
Suicides.....	5	9	—4	7.6	13.8	—6.2
Automobile accidents * (death in Boston)...	6	8	—2	9.2	12.3	—3.1
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	13	8	+5	19.9	12.3	+7.6
Broncho-pneumonia.....	113	88	+25	172.7	135.0	+37.7
Cancer.....	81	109	—28	123.8	167.3	—43.5
Cirrhosis of the liver.....	6	5	+1	9.2	7.7	+1.5
Diabetes mellitus.....	21	10	+11	32.1	15.3	+16.8
Diarrhea and enteritis (under two years)....	1	4	—3	1.5	6.1	—4.6
DEGENERATIVE DISEASES, SO CALLED:						
Arterio sclerosis.....	31	36	—5	47.4	55.2	—7.8
Cerebral hemorrhage.....	67	42	+25	102.4	64.4	+38.0
Heart disease.....	234	195	+39	357.6	299.2	+58.4
Nephritis, chronic.....	69	70	—1	105.4	107.4	—2.0

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING FEBRUARY,
1931, WITH COMPARATIVE FIGURES FOR FEBRUARY, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 1	—	+1	1.5	—	+1.5
	Deaths.. —	—	—	—	—	—
Cerebrospinal meningitis.....	Cases.. 9	6	+3	13.7	9.2	+4.5
	Deaths.. 2	4	-2	3.0	6.1	-3.1
Diphtheria.....	Cases.. 89	96	-7	136.0	147.3	-11.3
	Deaths.. 2	6	-4	3.0	9.2	-6.2
Influenza.....	Cases.. 230	7	+223	351.4	10.7	+340.7
	Deaths.. 19	—	+19	29.0	—	+29.0
Measles.....	Cases.. 308	415	-107	470.6	636.8	-166.2
	Deaths.. 3	—	+3	4.6	—	+4.6
Pneumonia (lobar).....	Cases.. 238	209	+29	363.7	320.7	+43.0
	Deaths.. 93	72	+21	142.1	110.5	+31.6
Scarlet fever.....	Cases.. 480	342	+138	733.4	524.8	+208.6
	Deaths.. 3	4	-1	4.6	6.1	-1.5
Tuberculosis (pulmonary).....	Cases.. 100	143	-43	152.8	219.4	-66.6
	Deaths.. 42	48	-6	64.2	72.1	-7.9
Tuberculosis (other forms).....	Cases.. 33	24	+9	50.4	36.8	+13.6
	Deaths.. 4	6	-2	6.1	9.2	-3.1
Typhoid fever.....	Cases.. 3	1	+2	4.6	1.5	+3.1
	Deaths.. —	—	—	—	—	—
Whooping cough.....	Cases.. 175	241	-66	267.4	369.8	-102.4
	Deaths.. 5	1	+4	7.6	1.5	+6.1

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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BOSTON, APRIL, 1931.

No. 4

REFERRED PAIN.

Pain is pressure on nerves. Pain may be felt elsewhere than where the nerve is subjected to pressure. The position of the ulnar nerve at the elbow joint exposes it to accidental pressure. When this happens, as in the case of hitting the elbow against something when the forearm is bent at an angle to the arm, pain is felt not only at the elbow but in the outside of the hand and the third and fourth fingers where filaments of the ulnar nerve terminate.

When a man's leg is amputated and the wound heals in such a way that something presses, possibly some little growth or scar, against the cut-off end of the nerve which formerly ran to the foot, then the man's mind may locate the pain not at the site of the amputation but in the toes of the amputated leg. The man's sense of pain in the toes will seem just as real as though the leg was still a part of the body and the toes had been injured.

The sense of pain in the part to which the nerve is distributed frequently leads to mistakes as to the real cause of the trouble. New growths, scars, degenerative changes, tumors or abscesses pressing against a nerve may not give rise to noticeable pain except at some distance away in parts where the nerve filaments are distributed. Pain associated with a tubercular hip joint is usually first

felt in the knee. In an elderly person what is sometimes supposed to be a persistent "muscular rheumatism" is really due to pressure on nerves as they emerge from the spinal column because of a malignant degeneration of the vertebræ.

The misleading character of painful symptoms also finds frequent exemplification in the results of a looseness of the joints at the base of the spine. The spinal column ends in the so-called sacrum, which fits into the bones of the pelvis like the keystone in an arch. It is nothing unusual to find the lower vertebræ somewhat displaced with respect to each other and also a looseness where the sacrum joins the pelvis.

Ligaments hold all these bones together as in joints elsewhere in the body, but ligaments are not designed to stand a strain. When strain is thrown upon them they give away or stretch, perhaps slowly. To maintain bones in their proper position at joints, ligaments are reinforced by muscles. If the muscles fail to perform this function and allow strain to be thrown on ligaments, the latter give way and the joint becomes loose. Failure of muscles to perform their function properly in keeping the joints tight at the lower end of the spinal column may result from various causes. It may be due to congenital weakness of the muscles, perhaps to some injury or violent strain of the muscles, but far more often it is due to lack of exercise of the muscles and bad posture. It is evident, therefore, that to be of permanent benefit remedial measures must include attention to posture and exercises intelligently directed to the strengthening of the defective muscles.

Numerous nerves emerge from the lower end of the spinal column and even a slight displacement of the bones in this region is likely to result in a twisting or in pressure on nerves, giving rise to pain which is often more pronounced in the parts where the nerves terminate, in the legs, or groins or abdomen or pelvis.

It has come to be well recognized that what was formerly called sciatica, and for which "stretching the sciatic nerve" was once an approved form of treatment, is generally due to trouble where the nerve leaves its bony canal at the base of the spinal column. More recently it has come to be better appreciated that pains which presumably point to trouble within the abdomen may be really due to pressure on the nerves at the lower end of the spinal column. It has come to be realized that some supposed cases of chronic appendicitis have been really due to this cause. Trouble in the sacro-pelvic region may also give rise to symptoms closely simulating renal colic. In other instances it may not be easy to tell whether the cause of pain lies within the abdomen or outside around the backbone. One of the devices made use of in the determination of

this matter is that of placing the body in various positions. A supposed abdominal pain which disappears and reappears as the patient is turned from one side to the other is usually due to some cause outside the abdomen.

THE DIAGNOSIS OF INFLUENZA.

The Health Commissioner is in receipt of the following letter, which will be of interest to readers of the "Bulletin."

March 10, 1931.

DR. FRANCIS X. MAHONEY,
Health Commissioner.

MY DEAR DOCTOR MAHONEY,— I wish to take this opportunity to compliment the author of the article "Influenza Statistics" appearing in the February "Bulletin" of the Boston Health Department. I wish everyone concerned might read it.

It always has been my conviction that much confusion exists in the minds of many of us as to the evidence for the diagnosis of influenza, looking at it from a reportable standpoint, that such confusion results from the fact that no simple test of diagnosis has universally been applied if universally known and that influenza statistics have been inaccurate to a degree in consequence.

That many of us who are not favored with the advantages of a large hospital service form certain personal conceptions as to what constitutes diagnostic criteria for labeling certain types of respiratory infections influenza is true in my experience, is born of a desire accurately to classify and report our cases with knowledge available to us and is justified for that reason. At the same time it is my feeling that no disease on your reportable list is subject to greater statistical error than influenza because of the numerous types of respiratory infection seen bearing resemblance to it and because of the varied criteria applied as evidence for the diagnosis.

In 1920, when experience had made every practitioner an expert on influenza, the Massachusetts Board of Registration in Medicine asked in one of its examinations how influenza pneumonia might be differentiated by simple means from pneumonia due to other primary causes. Other things being equal the answer to that question lay in a consideration of the white blood count, was in the last analysis the criterion being used in all large hospitals, and is still the key to differentiation of influenza from other respiratory infections and therefore the key to more accurate statistics.

Without going too deeply into the differential diagnosis of influenza or discussing its clinical characteristics so carefully presented in the article referred to, I will say that influenza is also

invariably characterized by a low, white count. Leucopenia is the rule, and this leucopenia persists even though pneumonia supervenes. The white count does not begin to rise in uncomplicated influenza until along towards convalescence or in influenza pneumonia until the patient lives long enough to begin to recover or present further complications.

Influenza usually presents at onset a fever unexplained by physical signs. Given a patient residing in this part of the country presenting an unexplained temperature of some duration and a low white count, differentiation of five common conditions will usually suffice for accurate diagnosis. They are measles, malaria, typhoid fever, tuberculosis and influenza. All of these may present prostration, bronchitis and other characteristics common to influenza in some stage of its course. The first four are ruled out by appropriate means. Early miliary tuberculosis presents the greatest clinical problem from the differential standpoint and occasionally is diagnosed only at autopsy. Bearing in mind the usual clinical characteristics of influenza, applying the test of the white count first, then differentiating the above four conditions, permits one to make the diagnosis of influenza. The low count is entirely essential to its consideration and is high in noninfluenzal respiratory infections.

After applying the above simple test as the most important single criterion for the diagnosis of influenza with particular reference to the present epidemic of respiratory infections, and notwithstanding my impression that I was seeing cases clinically resembling influenza, I have found but one case that I could leave in that category and that one was not in your jurisdiction.

It is my conviction that all of us should apply this simple test in cases of suspected influenza before reporting the disease as such.

Yours sincerely,

FRANK S. CRUICKSHANK, M. D.,
47 Bay State Road, Boston.

SAFEGUARDS AGAINST DISEASE.

Good, wholesome, well cooked food in proportion to your daily needs; proportionate rest; all the fresh air and sunshine you can get in the open air in the daytime and with open windows at night, together with as happy and cheerful a frame of mind as is possible will go far toward promoting general well-being and safeguarding you against disease.

OBITUARY.

DEATH OF DR. SAMUEL H. DURGIN.

Doctor Durgin was born in Parsonsfield, Me., July 26, 1839. He was educated in academies in New Hampshire and also at Dartmouth College, later taking the course at the Harvard Medical School, from which he was graduated in 1864.

He was in active service in the Army of the Potomac about Richmond, Petersburg, until the close of the war, being present in the field when Lee surrendered.

When he returned to this city he entered into the practice of medicine. In February, 1867, he was appointed Resident Physician for the City Institutions situated in the Harbor and was also made Port Physician. In January, 1873, he resigned this position, having been elected a member of the newly formed Board of Health for the City of Boston and soon after was made chairman, serving as such until he was retired in 1912.

Doctor Durgin was a member of the American Public Health Association, of which he was president in 1893; also of the Boston and Massachusetts Medical Societies; the Boston Society for Medical Improvement; the Loyal Legion; and for sixty-five years a member of the Joseph Webb Lodge of Masons.

In 1875 he married Mary Bradford Davis of this city, who died in 1906. In 1908 he married Mrs. Emma Coles Adams, who, together with a son, Edmund H. Durgin, of El Paso, Texas, survives him. A daughter by his first marriage, Miss Laura J. Durgin, died in 1929.

DEATH OF MISS FIDELIA FISK.

It is with feelings of deep regret that we report that Miss Fidelity Fisk, for thirty-one years a clerk in the Boston Health Department, died of pneumonia on March 22, 1931, at the age of sixty-one years. She was born in Minnesota and educated in that state, Illinois and Florida. For many years she was chief clerk of the Medical Division and at the time of her death was filling a similar position in the Laboratory Division.

She was not only an efficient and faithful employee, but a woman whose personality made for her many friends.

INFANT MORTALITY.

Financial troubles and unemployment have failed to disturb the downward trend of infant mortality in the cities of the United States during 1929, according to a report just issued by the American Child Health Association, in which the figure of 66.2 deaths among each thousand births is announced.

Next to the rate of 64.9 attained in 1927, the rate for 1929 is the lowest ever recorded for the cities of the country. The decline has been almost continuous since 1915 when the Birth Registration Area, formed for the collection of dependable information, was organized. In 1928 the rate rose slightly to 68.3 over the low point of 64.9 in 1927. Fifteen years ago the rate was near 100. Today the rate is but two-thirds what it was just after the World War started.

The report covers 720 cities in the Birth Registration Area which now includes forty-six states and the District of Columbia, which have satisfactory registration laws and record 90 per cent of the births. The figures in the report are drawn from the provisional summaries of the United States Census Bureau and from state and local authorities.

"The 1929 rate," said the announcement, "was the lowest ever attained in Chicago, Philadelphia, Detroit, Boston and Baltimore." For the five-year period from 1916-20 Pittsburgh exhibits the most outstanding decline, the rate dropping from 120 to 77 in the period 1925-29.

Portland, Oregon, had the lowest rate among the cities over 250,000 population. Seattle was a close second with 46, and Minneapolis stood third with 49. Among the ten largest cities in the country, St. Louis and New York tied for first place with a rate of 59. Close on their heels came the metropolis of the Middle West, Chicago, with a rate of 60. Other figures were Cleveland 61, Philadelphia 62, Los Angeles 65, Detroit and Boston 69, Baltimore and Pittsburgh 73.

St. Paul, Minn., was in the lead with a rate of 46 among the cities of the 100,000 to 250,000 class. Union City, N. J., stood first in the 50,000-100,000 class with a rate of 25. In the 25,000-50,000 class, another Jersey community, West New York, stood in the forefront, tied with Revere, Mass., each having rates of 26.

Among the smallest municipalities with populations from 10,000 to 25,000, Northbridge, Mass., had the low rate of 15.

As a group, the cities of the Pacific Coast continue their undisputed leadership as the banner home for babies. Oregon and Washington lead the procession with the cities of Minnesota in third place. Vermont, Utah and California cities show the same average rates.— *Bulletin Child Health Association.*

FADS AND FANCIES.

The American public, up until the market crash, was notoriously free spending. And this trait, perhaps more than any other one, was responsible for its amazing prosperity. By the same token, this grand old country of ours will again be on its feet with its chest proudly expanded, just as soon (and no sooner) as the people relax the tightened knot on their purse strings. It will perhaps matter little what they buy, so long as they put their hard earned and closely guarded coins into circulation once more.

At least one reservation should be made, however, to the anticipated and much hoped for spending activity. And this concerns itself with the vast amount of money that was formerly (and still is) squandered on the fads and fancies of health.

Many thousands of persons implicitly trusting the almightiness of the dollar have been led, through high-powered and irresistibly persuasive advertising pens, to believe that abundant health and prolonged usefulness are merely a question of buying this food or that food, using that and the other mechanical contrivance, or purchasing a brilliantly labeled bottle, the contents of which in some miraculous way will restore health or keep diseases away.

Unfortunately, the human body is not quite so susceptible to fairy tales and extravagant promises as is the brain that commands it. And the body just naturally suffers in consequence.

True, money will do a great many things in this work-a-day world. But it positively will not buy health. That commodity is purchased with a different type of coin.

The sooner the average citizen realizes that health and vitality call for conscientious and personal daily effort, the sooner many of the diseases now occupying top-line positions on the mortality and morbidity charts will lose their prominent places. But not one bit sooner.

Health demands a price. And the price is common sense. But, regrettably that is just what, in millions of instances, people do not apply.— *Excerpt from "Pennsylvania's Health," January-February, 1931.*

PRE-NATAL CARE.

We cannot urge too strongly the value of periodic examination and proper care of the prospective mother. It is the most effective way to reduce infant and maternal mortality. We wish to impress upon every prospective mother the great importance and need of such supervision.

PRACTICE OF SELF-CONTROL.

The practice of self-control affects not only one's own health but may affect the health of one's friends and neighbors. The person with a cold who fails to smother the sneeze and cough, or who spits promiscuously, is an active spreader of sickness and disease among his fellowmen. The individual who wilfully or carelessly breaks quarantine, and a family that sends its children to school while they are suffering from an acute communicable disease, thus exposing other children, are examples of those who fail to exercise proper self-control.

Failure to make use of recognized scientific methods of prevention of disease, such as smallpox vaccination and diphtheria prevention with toxin-antitoxin, is evidence of failure to develop self-control along preventive lines.

Regular periodic health examinations for oneself and for each member of one's family is another phase of self-control that pays handsome dividends. The story of "A stitch in time" is applicable here.

In the larger sense, when illness comes one is paying for his inability to practice proper self-control and in matters of health it may well be said that each individual is "His brother's keeper."—*Chicago's "Health," February 3, 1931. (Excerpt.)*

RELAXATION.

The effort of the work of the day is a constant drain on vitality, energy and strength.

No matter what extreme of effort drains the strength, a change or variety of program or employment is necessary. If the individual works indoors, the leisure time should be spent out-of-doors as much as possible. Get all the fresh air you can. If your indoor activity is strenuous mentally, indulgence in forms of recreation which develop the muscles is the proper type of change for you. On the other hand, if your indoor activity is strenuous from a muscular standpoint, indulgence in forms of recreation which will develop a different set of muscles is the proper variety.

The whole secret of relaxation is an absolute change, which cannot help but give rest and recreation because of its very difference. Assume a frame of mind which will permit you to enjoy yourself to the utmost, be contented and cheerful and alert to the good things with which you are always surrounded.

Overweight is more easily prevented than corrected.

NOCARD'S BACILLUS AND PSITTACOSIS.

Our readers will recall that until the outbreak of psittacosis last winter the disease was said to be caused by the so-called "bacillus psittacosis" originally isolated by Nocard in 1892. This micro-organism is related to the paratyphoid-enteritis group, or as bacteriologists now prefer to call it, the Salmonella group.

When laboratory studies were made in connection with the recent outbreak all the bacteriologists, both in this country and abroad, were struck by the fact that they could not succeed in isolating the Nocard bacillus. Almost simultaneously and entirely independent of one another, Bedson, Western and Simpson in England, and Krumwiede, McGrath and Oldenbusch in New York City showed that the virus of psittacosis is filterable and is not identical with the bacillus originally described by Nocard.

In a recent number of "Public Health Reports," Branham gives a summary of investigations carried on during the recent outbreak of psittacosis by the National Institute (U. S. Hygienic Laboratory). Her study indicates that the Nocard bacillus is in no way related to psittacosis, either in birds or in man. Following are the conclusions:

"During the recent outbreak of psittacosis in the United States an intensive search for the 'bacillus psittacosis' of Nocard was made in the carcasses and droppings of parrots that were shipped to the National Institute of Health, in experimentally infected and in normal parrots and parrakeets, and in material obtained from human cases. No strain of 'B. psittacosis' or of any other member of the Salmonella group of bacteria was found.

"In fifty-seven convalescent sera studied, agglutinins for 'B. psittacosis' and other Salmonella bacteria were not demonstrable in dilutions that could be considered significant.

"We have found no evidence of the association of any member of the Salmonella group of micro-organisms with psittacosis either in birds or in man."— *N. E. Journal of Medicine*, November 20, 1930.

TO PARENTS.

Every parent whose child is planning to go to a summer camp should see to it that the child is properly protected by vaccination against smallpox and typhoid fever, without being required to do so by the camp authorities.

Before selecting the camp for your child, parents should assure themselves that at the camp which they select, a reasonably adequate provision is made for safeguarding the child's health in every respect.

UNHYGIENIC HABITS OF LIVING.

Physical and mental work do not of themselves produce mental disorder but if unhygienic methods of living (such as insufficient sleep and food and neglect of bodily care and attention) be added thereto, we have a condition of bodily, nervous and mental fatigue which renders the individual less capable of meeting the trials and tribulations of daily life, and this is even more pronounced if marked emotional shocks occur which require greater than usual powers of adjustment on the part of the individual.

Ignorance of moral fiber and absence of a wholesome, satisfying philosophy toward life are causative factors in this connection.

— *Chicago's "Health," March 3, 1931.*

NURSE THE BABY IF POSSIBLE.

No perfect substitute has yet been discovered for mother's milk. Therefore, every effort should be made to encourage the mother to nurse her baby before attempting artificial feeding.

SUMMARY OF WORK, MARCH, 1931.

ADMINISTRATION DIVISION.

Legal notices	140	Hearing	1
Prosecution ordered	1	Personnel:	
Settlements:		Death of employee	1
Total cases	162	Permanent appointments	2
Notices	124	Temporary appointments	2
Bills	38	Promotions	4
Contract approved	1		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,146	Lying-in hospitals approved	2
Denatured alcohol approved	72	Dump permits approved	3
Denatured alcohol disapproved,	1	Dump permit refused	1
Hen licenses approved	176	Garbage transportation ap- proved	4
Massage-manicure approved	24	Milk licenses approved	110
Ice cream dealers approved	48	Pedlers' licenses approved.	79
Ice cream manufacturers ap- proved	42	Undertaker	1
Grease approved	7	Manure	1
Offensive trades	2	Beverage approved	2

MEDICAL DIVISION.

Reported cases	2,469	Visits:	
Nonresidents	129	By V. D. investigator	458
Deaths investigated	52	By medical inspectors to cases of communicable disease	707

BACTERIOLOGICAL LABORATORY DIVISION.

DIPHTHERIA:

Positive for diagnosis	40	
Positive for release	79	
Negative for diagnosis	850	
Negative for release	77	
No growth cultures	61	
	—	1,107

DARK FIELD:

Unsatisfactory		1
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GONORRHEAL OPHTHALMIA:

Negative	76	
Unsatisfactory	1	
	—	77

GONORRHEAL URETHRITIS:

Positive	147	
Negative	802	
Unsatisfactory	1	
	—	950

MALARIA:

Negative		2
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MISCELLANEOUS EXAMINATIONS:*

Positive	21	
Negative	113	
Unclassified	303	
	—	437

GENITO URINARY TUBERCULOSIS:

Positive	2	
Negative	17	
	—	19

TUBERCULOSIS:

Positive	63	
Negative	371	
	—	434

TYPHOID:

Positive	2	
Negative	18	
Unsatisfactory	9	
	—	28

SYPHILIS:

Positive	98	
Negative	1,009	
Unsatisfactory	16	
Doubtful	16	
	—	1,139

Bacteriological milk examinations		798
Bacteriological ice cream examinations		6
Swimming pools examined		64
Total		4,999

* Unit urines, 293; Vincent's angina, 22; virulence, 11; blood for eosinophilis, 3; blood culture or organisms, 1; Schwartz-McNeil, 1; urine for eberthella typhi, 17; feces for eberthella typhi, 17; streptococci, 45; streptococcus hemolyticus, 11; synovial fluid for T. B., 1; paratyphoids, 2; Spanish relish for organisms, 1; water for sewage, 2; water for organisms, 10.

FOOD DIVISION.

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during March, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association, using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 in one cubic centimeter before pasteurization and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.....	12.25	3.74	11,000
Antetomasso, Peter.....	12.71	4.05	26,000
Brandley, T. J. & P. J.....	12.63	4.10	300
Buxton, William E.*.....	13.82	4.70	2,500
Casey, James D.....	12.84	4.05	8,000
Cashin, J. F., & Co.....	12.66	4.00	13,000
Cedar Hill Farm, Inc.*.....	13.18	4.35	475
Chapin, George L.....	12.68	3.99	16,000
Clark, Levi.....	12.17	3.82	23,000
Corkery, John J.....	12.82	3.98	51,000
Corkery, Martin S.....	12.50	3.92	25,000
Daley, John.....	12.11	3.60	425
Dean, Louis W.*.....	13.34	4.40	23,000
Deerfoot Farm Company.....	12.95	4.17	9,000
Denehy, Timothy.....	12.60	3.90	13,000
Driscoll, William B., Company.....	12.50	3.88	14,000
Elm Spring Farm Company.....	12.56	3.95	29,000
Ferguson, Malcolm D.....	12.83	4.03	22,000
Garfield, Mason *.....	15.12	5.90	400
Garvin, Charles.....	13.85	4.70	5,000
Giroux, J. E. & H. J.....	12.39	4.00	21,000

* All milk from tuberculin tested cows.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Griffin, Joseph L.....	12.55	3.92	13,000
Gushee, Chester W.....	12.64	3.92	16,000
Hampden Creamery Company.....	12.75	4.05	16,000
Herlihy Brothers, Inc.....	12.28	3.68	20,000
Hickey, J. B.....	12.24	3.80	18,000
Holden, John E.....	12.37	3.81	25,000
Hood, H. P., & Sons, Inc.....	12.35	3.79	15,000
Hutchinson, Frank T.....	12.89	4.30	20,000
Jones, William T., Company.....	12.65	4.03	13,000
Kendall Brothers.....	12.52	3.83	17,000
Kingston Brothers.....	12.39	3.82	22,000
Knapp, George J.*.....	12.43	3.80	36,000
Lang Brothers.....	12.48	3.83	19,000
Larsson, Charles.....	12.71	3.83	50,000
Lyndonville Creamery Association.....	12.70	4.12	22,000
Manning, Harriet.....	12.35	3.87	23,000
McAdams, J. F., & Brothers, Inc.....	12.76	3.96	11,000
McKernan, John.....	12.73	3.98	22,000
New England Creamery Products Company*.....	12.55	3.92	16,000
Prescott, J. B., & Co.....	12.73	4.03	21,000
Robinson, A. J.....	13.70	4.17	16,000
Schuster, Adam.....	12.54	3.90	47,000
Seven Oaks Dairy Company.....	12.44	3.82	11,000
Shawsheen Dairy, Inc.....	13.09	4.28	13,000
Shick, Jacob.....	12.53	3.83	25,000
Somerset Farm Creamery Company.....	12.51	3.60	10,000
Sterling Farm Milk Company.....	12.44	3.80	13,000
Stone, H. L.....	12.46	3.89	24,000
Stuart, W. E., Company.....	12.71	3.98	9,000
Tufts Brothers.....	12.61	4.15	10,000
Turner Centre System.....	12.32	3.78	9,000
United Farmers' Co-operative Creamery Association, Inc..	12.73	4.08	11,000
Walker-Gordon Laboratory Company*†.....	12.60	4.10	75
Weiler, E., & Son.....	12.51	3.92	39,000
Westwood Farms Milk Company.....	12.56	3.92	7,000
White Brothers.....	12.70	4.02	21,000
Whiting Milk Companies.....	12.36	3.74	21,000
Whittemore, Warner D.....	12.71	3.93	19,000
Wiswall, Granville A.....	12.76	4.05	10,000
Woodland, Charles L.*.....	12.68	4.08	17,000

* All milk from tuberculin tested cows.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc....	12.29	3.68	10,000
M. Brown & Sons.....	Whiting Milk Companies...	12.43	3.80	12,000
The Cloverdale Company.....	Herlihy Brothers, Inc.....	12.28	3.67	29,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.....	12.32	3.72	42,000
First National Stores, Inc.....	Bellows Falls Cooperative Creamery Association.	13.24	4.23	23,000
Morgan Brothers Company....	New England Creamery Products Company and United Farmers' Co-operative Creamery Association, Inc.	12.65	4.02	11,000
M. Winer Company.....	M. Winer Company.....	12.75	4.07	14,000

GRADE A MILK — PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.29	4.55	5,000
Cashin, J. F., & Co.....	12.88	4.60	8,000
Corkery, John J.....	13.64	4.75	20,000
Cosgrove, Martin S.....	13.12	4.20	12,000
Dean, Louis W.*.....	13.94	4.80	12,000
Elm Spring Farm Company.....	12.94	4.19	13,000
Griffin, Joseph L.....	13.00	4.14	8,000
Gushee, Chester W.....	13.05	4.25	9,000
Herlihy Brothers, Inc.....	12.59	4.38	9,000
Hood, H. P., & Sons, Inc.*.....	12.62	4.13	1,700
Jones, William T., Company.....	13.04	4.25	8,000
Lyndonville Creamery Association.....	13.33	4.30	3,500
McAdams, J. F., & Brothers, Inc.....	13.04	4.48	7,000
New England Creamery Products Company*.....	13.48	4.55	12,000
Robinson, A. J.....	13.58	4.60	7,000
Seven Oaks Dairy Company.....	13.09	4.30	11,000
Sterling Farm Milk Company.....	13.10	4.25	9,000
Turner Centre System.....	12.30	4.00	2,750
White Brothers.....	12.80	4.30	14,000
Whiting Milk Companies*.....	12.56	4.13	7,000
Woodland, Charles L.*.....	13.36	4.45	1,200

* All milk from tuberculin tested cows.

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farm Company *.....	Alta Crest.....	13.30	4.30	2,000
Hood, H. P., & Sons, Inc.*.....	Own.....	13.65	4.63	1,000
Walker-Gordon Laboratory Company.*	Own.....	12.73	4.15	2,500
Whiting Milk Companies.....	Hampshire Hills.....	12.94	4.00	2,500

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.*.....	Own.....	13.74	4.40	50

* All cows tested and reported free from infectious abortion.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	358
Milk from stores	691
Vinegar	25
Ice cream	3
Miscellaneous	22

Samples referred to Bacteriological Laboratory for examination:

Milk	798
Ice cream	3

DAIRY DIVISION.

Total services	2,054	Total cattle inspected	7,903
Dairies inspected	539	Inspection of milk plants and	
Scoring above 50 *	450	licensed dealers	339
Scoring below	89	Country creamery inspections	2
With milk rooms.	470	Sediment tests	523
Without milk rooms	69	Investigations of high bacterial	
Inactive	14	counts	6

* Passable mark.

FOOD INSPECTION DIVISION.

MARCH, 1931.

District inspections	3,770
Reinspections	303
Market inspections	1,252
Terminal inspections	689
Vehicle inspections *	3,465
Stand inspections	1,376
Complaints	40
Notices to abate	144
Condemnations	35
Pedler service:	
Numbers assigned	90
Licenses certified	79
Vehicles approved	780

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	3,700	Parts condemned	1,497
Calves inspected	5,568	Animals condemned	113
Swine inspected	4,399	Total of meat condemnations	
Sheep inspected	388	(pounds)	34,284

SANITARY DIVISION.

Original inspections	3,707	Complaints investigated	597
Causes for action found	2,086	Nuisances abated	1,708
Reinspections	6,151	Routine inspections	2,901
Legal notices served	138		

YEARLY PHYSICAL EXAMINATION.

A physical examination at least once a year is highly desirable in order that disease may be detected before it becomes too serious. When the symptoms are obvious, it is many times too late.

Guard Your Food Supply.—All articles of food should be carefully covered and kept in an iced receptacle or box, which should be scrupulously clean at all times.

TUBERCULOSIS DIVISION.

In the month of March there were ninety children's clinic sessions and forty-two adults' clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	13	102	117	219	5	17	3	20
East Boston.....	9	56	102	158	5	9	—	9
North End.....	9	33	117	150	4	4	1	5
West End.....	8	26	50	76	5	15	2	17
South Boston.....	9	47	106	153	4	4	3	7
Boston Dispensary.....	9	36	10	46	—	—	—	—
Brighton.....	5	12	8	20	5	12	8	20
Charlestown.....	4	27	72	99	5	1	1	2
Codman Square.....	9	68	76	144	5	16	5	21
Hyde Park.....	6	27	34	61	4	15	—	15
Arcadia Street.....	4	23	27	50	—	—	—	—
Roxbury.....	5	71	94	165	—	—	—	—
Totals.....	90	528	813	1,341	42	93	23	116

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	13	10	23	2	2	4
East Boston.....	12	19	31	1	—	1
North End.....	4	12	16	—	—	—
West End.....	3	5	8	2	—	2
South Boston.....	6	20	26	—	—	—
Boston Dispensary.....	10	2	12	—	—	—
Brighton.....	—	—	—	1	1	2
Charlestown.....	6	8	14	1	1	2
Codman square.....	14	6	20	4	—	4
Hyde Park.....	2	6	8	3	—	3
Arcadia street.....	5	3	8	—	—	—
Roxbury.....	11	25	36	—	—	—
Totals.....	86	116	202	14	4	18

DISTRICTS.	DAY CLINIC.			NIGHT CLINIC.		
	Von Pirque.	Wasserman.	Lamps.	Von Pirque.	Wasserman.	X-Ray.
South End.....	41	9	134	1	1	99
East Boston.....	27	6	—	—	1	52
North End.....	30	6	—	—	—	29
West End.....	5	6	—	—	2	29
South Boston.....	31	3	197	—	—	151
Boston Dispensary.....	11	5	—	—	—	—
Brighton.....	7	—	—	—	—	—
Charlestown.....	11	6	—	1	1	20
Codman square.....	16	17	—	1	3	—
Hyde Park.....	16	3	—	6	2	—
Arcadia street.....	3	3	—	—	—	—
Roxbury.....	25	12	—	—	—	53
Totals.....	223	76	331	9	10	433

CHILD HYGIENE DIVISION.

Report of Medical Inspection of Parochial Schools, March, 1931.

Schools visited	454
Number of children seen	3,892
Number of children excluded	106
Number of children readmitted	1,971
Number of children examined	2,642

CAUSE OF PNEUMONIA.

The immediate cause of many cases of pneumonia is a disease germ known as the pneumococcus. Four different breeds or "types" of the pneumococcus have been identified. Sub-types or "strains" also apparently exist. When local or general bodily conditions are favorable various kinds of common bacteria known as streptococci will cause a very fatal sort of pneumonia. Under favorable conditions also other common forms of bacteria may produce a pneumonia.

While the common kinds of pneumonia cannot occur without the presence of some one or other of the bacteria just referred to, the mere presence of these bacteria is seldom if ever sufficient of itself to cause pneumonia to develop. There must usually, if not always, be on the part of a person, some favorable local or general condition to enable any bacteria to produce a pneumonia.

Dirty and wet yards, cellars and areas encourage the breeding of flies and mosquitoes, the *spreaders of disease*.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING MARCH, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	18	36.00
Seven days or less.....	6	12.00
Eight to fourteen days, inclusive.....	—	—
Fifteen to twenty-one days, inclusive.....	1	2.00
Twenty-two to thirty-one days, inclusive.....	—	—
WITHIN FIRST MONTH. (Total).....	25	50.00
Within second month.....	3	6.00
Within third month.....	3	6.00
Within fourth month.....	—	—
Within fifth month.....	—	—
Within sixth month.....	—	—
Within seven month.....	2	4.00
Within eighth month.....	1	2.00
Within ninth month.....	—	—
Within tenth month.....	—	—
Within eleventh month.....	1	2.00
Within twelve month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	35	70.00
Within second year.....	9	18.00
Within third year.....	2	4.00
More than three years.....	4	8.00
Grand totals.....	50	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF MARCH, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	51	34	20	9
North Reading State Sanatorium.....	9	8	4	3
Lakeville State Sanatorium.....	1	5	—	2
Rutland State Sanatorium.....	—	1	1	—
Westfield State Sanatorium.....	—	—	1	2
Tewksbury.....	4	—	—	1
Totals.....	65	48	26	17

PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	2	11
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	1
United States Veterans' Hospital.....	—	—	—	—
Doctor Crane's Sanatorium.....	—	—	4	6
Totals.....	—	—	6	18

Report of Child Health Conferences, March, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Pre-school (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	135	8	143	24	1	25	4	36
Lincoln street.....	57	8	65	5	2	7	4	16
Charlestown.....	333	19	352	40	—	40	9	39
Codman square.....	384	47	431	48	4	52	9	48
Columbia road.....	210	6	216	22	1	23	9	24
Arcadia street.....	346	16	362	55	1	56	9	40
East Boston.....	334	18	352	56	1	57	9	39
Hyde Park.....	154	24	178	23	1	24	9	20
Jamaica Plain.....	129	13	142	22	2	24	4	36
North End.....	188	75	263	29	3	32	9	30
Roslindale.....	336	48	384	29	1	30	5	77
Roxbury.....	454	19	473	58	4	62	13	36
Children's Hospital.....	141	10	151	22	—	22	5	30
South Boston.....	278	53	331	62	3	65	8	41
South End.....	287	20	307	46	—	46	9	33
Tyler street.....	134	23	157	15	—	15	5	31
West End.....	360	68	428	25	4	29	9	48
1049 Columbus avenue.....	354	30	384	53	3	56	8	48
Totals.....	4,614	505	5,119	634	31	665	171	37

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, MARCH, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	4	5	4	13	5
Lincoln street.....	2	2	—	4	—
Charlestown.....	17	14	21	52	12
Codman square.....	19	17	19	55	14
Columbia road.....	1	—	3	4	—
Arcadia street.....	—	—	1	1	5
East Boston.....	1	—	1	2	2
Hyde Park.....	14	15	17	46	14
Jamaica Plain.....	1	4	3	8	—
North End.....	—	—	—	—	—
Roslindale.....	2	4	7	13	17
Roxbury.....	6	11	13	30	11
Children's Hospital.....	6	3	9	18	16
Columbus avenue.....	7	9	3	19	9
South Boston.....	1	—	1	2	1
South End.....	2	1	—	3	7
Tyler street.....	2	2	1	4	12
West End.....	7	5	6	18	4
Totals.....	92	91	109	292	129

Full and Complete Birth Registration Insures a Lower Infant Mortality.

Doctor, look over your records of confinements, and report to the City Registrar any births you have thus far failed to report this year. You will then be not only complying with the law, but fulfilling an obligation that is due the child, its parents, and the Commonwealth. If you have any doubt as to any such birth, mail a duplicate to the City Registrar, and so mark it.

FRANCIS X. MAHONEY, M. D., Health Commissioner.

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, MARCH, 1931.

UNIT.	Number of Patients.	Number of Operations.
West End.....	852	1,273
North End.....	850	1,786
South End.....	880	1,694
East Boston.....	953	1,724
South Boston.....	1,269	2,083
Roxbury.....	1,019	1,325
Charlestown.....	879	1,678
	6,702	11,563

COOPERATIVE HEALTH UNIT REPORT, MARCH, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physicians.....	58				72		97	227
HULL STREET DISPENSARY:								
Calls by district physicians.....			7					7
BOSTON LYING-IN HOSPITAL:								
Prenatal clinics.....	4	4	5	5	4	4	4	30
Attendance.....	18	83	53	32	49	34	46	315
New cases.....	2	30	11	6	15	11	13	88
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	5			3	5	9	26
Attendance.....	35	52			32	69	200	388
CHILDREN'S HOSPITAL:								
Infantile paralysis clinics.....	5	4			4	4		17
Attendance.....	42	18			67	26		153
New cases.....								
AMERICAN RED CROSS:								
Home Nursing Classes.....					4			4
Attendance.....					97			97
STATE DEPARTMENT OF MENTAL HYGIENE:								
No habit-forming clinics.....							4	4
Attendance.....							40	40
New cases.....							4	4
JEWISH WELFARE SOCIETY:								
Staff meetings.....							2	2
Attendance.....							47	47
HEALTH DEPARTMENT:								
Refraction Service:								
Number of refractions.....			133					133
Number of diagnoses.....			155					155
Glasses recommended.....			43					43
New cases.....			53					53
Nose and Throat Service:								
Clinics.....							3	3
Attendance.....							127	127
Operations recommended.....							33	33
Mothers' Club Meetings (HDD).....		1	1	1	1		1	5
Attendance.....		18	14	14	18		14	78

NURSING SERVICE.

REPORT FOR MARCH, 1931.

HOMES VISITED	15,760	
CHILD HYGIENE:		
Visits to new cases	1,372	
Visits to old cases	8,254	
	<hr/>	9,626
Included are:		
Wrong addresses	85	
Not seen *	759	
	<hr/>	
Absent visits	844	
COMMUNICABLE DISEASES:		
Visits to new cases	1,553	
Visits to old cases	2,568	
	<hr/>	4,121
Included are:		
Wrong addresses	48	
Not seen *	87	
	<hr/>	
Absent visits	135	
TUBERCULOSIS:		
Visits to new cases	235	
Visits to old cases	4,726	
	<hr/>	4,961
Included are:		
Wrong addresses	26	
Not seen *	362	
	<hr/>	
Absent visits	388	
Positive cases visited	2,170	
Contact cases visited	1,936	
Suspect cases visited	467	
	<hr/>	4,961
MISCELLANEOUS VISITS:		
Infant death investigations	8	
Patients accompanied to hospital	31	
Visits to day nurseries	64	
Visits to parochial schools	834	
Nutrition visits	1	
Other special visits	14	
	<hr/>	952
	<hr/>	19,660
		<hr/>
	Hrs.	Mins.
Hours in station by nurses	3,467	49
Hours at baby and pre-school conference	1,855	07
Hours at tuberculosis clinic	771	45
Hours at nurses' conference	79	20
Hours at special meetings	22	20
	<hr/>	<hr/>
Total number of hours	6,195	41

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, MARCH, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MARCH,
1931, WITH COMPARATIVE FIGURES FOR MARCH, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	949	1,115	—166	14.50	17.11	—2.61
Nonresidents deducted.....	750	894	—144	11.46	13.72	—2.26
By AGE:						
Under one year.....	76	127	—51	1.16	1.95	—.79
One year to four years, inclusive.....	25	49	—24	.38	.75	—.37
Sixty years and over.....	440	486	—46	6.72	7.46	—.74
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,250	1,304	—54	19.10	20.01	—.91
b. Registered stillbirths.....	38	40	—2	.58	.61	—.03
Stillbirths per 1,000 live births and stillbirths.....				29.50	29.76	—.26
c. Deaths of mothers from causes incident to childbirth.....	13	16	—3	.20	.31	—.11
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	10.09	11.90	—1.81
d. Deaths in first year per 1,000 live births..	76	127	—51	60.80	97.39	—36.59
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	48	57	—9	73.3	87.5	—14.2
Homicides.....	1	1	—	1.5	1.5	—
Suicides.....	9	13	—4	13.7	20.0	—6.3
Automobile accidents * (death in Boston)...	11	13	—2	16.8	20.0	—3.2
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	7	20	—13	10.7	30.7	—20.0
Broncho-pneumonia.....	44	93	—49	67.2	142.7	—75.5
Cancer.....	112	126	—14	171.1	193.3	—22.2
Cirrhosis of the liver.....	8	9	—1	12.2	13.8	—1.6
Diabetes mellitus.....	17	18	—1	26.0	27.6	—1.6
Diarrhea and enteritis (under two years)....	2	9	—7	3.0	13.8	—10.8
DEGENERATIVE DISEASES, So CALLED:						
Arterio sclerosis.....	12	38	—26	18.3	58.3	—40.0
Cerebral hemorrhage.....	53	54	—1	81.0	82.9	—1.9
Heart disease.....	201	208	—7	307.1	319.2	—12.1
Nephritis, chronic.....	82	76	+6	125.3	116.6	+8.7

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MARCH,
1931, WITH COMPARATIVE FIGURES FOR MARCH, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 2	—	+2	3.0	—	+3.0
	Deaths. —	—	—	—	—	—
Cerebrospinal meningitis.....	Cases.. 3	10	—7	4.6	15.3	—10.7
	Deaths. 1	5	—4	1.5	7.7	—6.2
Diphtheria.....	Cases.. 84	63	+21	128.3	96.7	+31.6
	Deaths. 1	4	—3	1.5	6.1	—4.6
Influenza.....	Cases.. 36	15	+21	55.0	23.0	+32.0
	Deaths. 6	2	+4	9.2	3.1	+6.1
Measles.....	Cases.. 545	1,091	—546	832.8	1,674.2	—841.4
	Deaths. 2	7	—5	3.0	10.7	—7.7
Pneumonia (lobar).....	Cases.. 118	194	—76	180.3	287.7	—117.4
	Deaths. 45	67	—22	68.8	102.8	—34.0
Scarlet fever.....	Cases.. 574	346	+228	877.1	530.9	+346.2
	Deaths. 3	6	—3	4.6	9.2	—4.6
Tuberculosis (pulmonary).....	Cases.. 144	171	—27	220.0	262.4	—42.4
	Deaths. 50	55	—5	76.4	84.4	—8.0
Tuberculosis (other forms).....	Cases.. 41	26	+15	62.6	39.9	+22.7
	Deaths. 2	7	—5	3.0	10.7	—7.7
Typhoid fever.....	Cases.. 4	4	—	6.1	6.1	—
	Deaths. 1	0	+1	1.5	—	+1.5
Whooping cough.....	Cases.. 169	249	—80	258.2	382.1	—123.9
	Deaths. 5	3	+2	7.6	4.6	+3.0

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

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MONTHLY BULLETIN
HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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No. 5

APPENDICITIS.

Statistical studies made by the Metropolitan Life Insurance Company, and recently referred to in the Boston Health Department "Bulletin," indicated that mortality from appendicitis is increasing in this country in spite of constantly improving medical and surgical skill.

In the New York City Health Department Weekly "Bulletin," for February 21, 1931, excerpts are taken from a statistical analysis published by Dr. Frederick L. Hoffman, in the "Spectator," showing the death rate from appendicitis in the United States and Canada, compared with the rates as indicated by the statistics from European countries.

From Doctor Hoffman's figures it appears that statistical mortality from appendicitis has been tending to increase somewhat in this country and Canada during the last twenty years and that the rate here in America presents a striking contrast to recorded mortality from appendicitis in European and other foreign countries. Doctor Hoffman's figures indicate that the mortality rate from appendicitis in fifty-nine cities in the United States in 1929 was 18.0 per 100,000, reaching in Detroit a rate of 20.1 per 100,000, approximately that of its mortality from automobile accidents. The Canadian figures indicate a mortality of about 15.0 per 100,000.

In European countries, from 1921-28, it would appear from the figures given that the mortality rate ranged from 2.8 per 100,000 in Spain to 10.4 in Switzerland.

It may be observed that the rates from two countries so similar in the life of the people as Holland and Belgium are 3.5 per 100,000 for Holland and 7.2 for Belgium. Norway is 5.4 and Sweden 8.6. The figures for France are not given. Germany is credited with a rate of 6.6. Both in America and Europe the mortality appears to be higher in males than in females.

As the New York City "Bulletin" suggests the striking difference in mortality rates between this country and Europe, it demands attention from agencies interested in public health.

The first matter to be determined, however, is whether or not we are dealing with a statistical phenomenon. Familiarity with the genesis of vital statistics leads one to suspect that deaths from appendicitis in Europe are being credited statistically under some other designation to a greater extent than in this country. Deaths credited to *appendicitis* are really due to *peritonitis*, of which the *appendicitis* is the cause, and it naturally occurs to one that in foreign countries the internationally adopted classification of causes of death may not be followed as closely as here. The writer of this article finds in a foreign report which happens to be at his hand deaths credited to *typhlitis*, a term which probably has not appeared in a death certificate in this country for years. In another report from a large foreign city which exhibits an unusual interest in public health the writer finds that, excluding deaths under two years of age, more deaths are classified under what may be translated as "*other affections of the digestive apparatus*" than to the total of all specified causes of death involving the digestive system. The writer finds in the same report practically two deaths out of every hundred recorded as due to what may be translated as "*unknown or ill defined diseases.*" While the foregoing observations may not offer the real explanation of the larger number of recorded deaths in American cities in proportion to the population, they nevertheless should serve again to remind us that officially recorded causes of death are statistical material "fundamentally of a dubious character."

A curious outcome of Doctor Hoffman's study hard to account for because of the matters just referred to, is the consistently higher recorded mortality from appendicitis in males than in females throughout the world. A similar inexplicable variation in mortality between the two sexes has long been observed in whooping-cough. In recent local epidemics of cerebrospinal meningitis in this country a much greater prevalence and mortality in males than females was also clearly apparent.

Doctor Hoffman voices a common assumption in trying to connect appendicitis with diet and quotes from an article by Dr. W. Shrubshall, appearing in the British Medical Journal of March 30, 1930, from which we might infer that the eating of meat is a cause of appendicitis. Doctor Shrubshall claims a freedom from appendicitis on the part of non-meat natives of Africa, but we have no testimony that appendicitis is any more common among the meat-eating denizens of the world north of the Arctic Circle.

We see instances, as, for example, when we find birdshot in an infected appendix, which would seem to justify the conclusion that appendicitis may be produced directly by the character of the diet. There are instances also in which congenital abnormalities of the digestive canal would appear to be the chief factors in the causation of an appendicitis. On the whole, however, there is quite as much evidence that the development of an acute appendicitis is indicative of a lowered general bodily resistance to infection and that an infective process is to be looked for elsewhere in the body. It may be that the part, if any, which diet plays in the matter is by failure of the diet to possess properties requisite to the maintenance of resistance to infections.

At the time when appendicitis was unrecognized and referred to as "inflammation of the bowels" it was supposed to be caused by drinking cold drinks, cold water or cold milk. It would seem that the apparent higher mortality from appendicitis in the United States and Canada might, in the light of present knowledge, be quite as reasonably accounted for by the habits of the people of these countries in drinking ice water and other iced drinks in contrast with popular custom in Europe and Africa, as by the higher per capita consumption of meat in the United States and Canada. In view of the antiquity of the "cold drink" hypothesis it would seem that in deference to its age it might with propriety be disposed of first.

Whatever may be the cause of appendicitis or its relative prevalence in Europe and America, Doctor Hoffman's article makes it very evident that appendicitis in the United States and Canada constitutes a problem of serious importance in preventive medicine.

MILK INSPECTION AS CONDUCTED BY THE BOSTON HEALTH DEPARTMENT.

Milk inspection in Boston is carried out by a Bureau of Milk Inspection under the direction of the milk inspector and subject to the control of the Health Commissioner. This Bureau of Milk Inspection was established in 1859 and was the first office established on this continent exclusively for the inspection of milk.

Much of importance in the development of methods of milk inspection and in the enactment of milk law has originated here.

The statute requires that the City of Boston shall appoint a milk inspector and he is charged by the statute with the enforcement of all laws relating to milk and milk products. The duties of the milk inspector of Boston are those of a detective, chemist and a lawyer. The milk inspector also helps to coordinate governmental, educational and commercial activities in the improving of the quality of the milk produced. All of these activities have but one object in view and that is to see to it that you get the best quart of milk that can be secured for you.

In order to produce the 650,000 quarts of milk needed daily to supply the citizens of Boston with milk and cream, about 120,000 cows are daily giving their milk for you on approximately 20,000 inspected dairies located in all the New England States, in New York State, and in the Province of Quebec, Canada. This milk is placed in sterilized tin cars or in glass-lined tank cars and is brought to Boston either by railroad or by truck. In Boston the milk is received at establishments for the pasteurization of milk. These establishments are licensed, are fitted with standardized equipment which is housed in sanitary buildings and are under constant supervision.

The inspection of milk begins with the raw product as it is delivered in Boston from the country. This raw milk must conform to regulations and standards for freshness and purity and the pasteurization of raw milk which is not fresh and pure is a violation of the law. Thousands of samples of this raw milk are taken. This is to make sure that the raw milk is pure, clean and fresh. If the examination of such samples discloses anything wrong with the milk the milk inspector directs governmental, educational and commercial agencies, which converge upon the source and rectify the trouble within a few hours.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., amounting to 1,600 quarts daily, which may be sold raw. Sales of certified milk amount to only 0.4 per cent of the entire daily supply.

In the early hours of the morning, from two o'clock on, when you are usually sound asleep, collectors of milk samples are on the streets in the various districts of Boston securing samples of milk from the milk wagons. After delivering these samples of milk to the laboratory of the milk inspector the collectors of milk samples go out again and this time samples are collected from milk that is being offered for sale by stores and restaurants.

All wagon dealers and storekeepers who sell milk must secure a license to do so. This license to sell can issue only after inspection

and a subsequent approval of the conditions under which such milk is to be sold. All licensees are listed for the purposes of sampling so that no one may escape inspection.

All milk samples so collected are examined chemically and bacteriologically by experts under the direction of the milk inspector. The milk inspector then weighs the evidence thus secured and in all cases where such evidence is sufficient to sustain a complaint for the violation of the milk law he is required by law to make, and does make, a complaint in court and does prosecute such complaint to a conclusion.

About 25,000 such samples of milk are collected for laboratory examination each year. The bulk of milk law violations are due to carelessness, and especially to carelessness from the sale of milk from dip tanks in restaurants where the milk is to be consumed on the premises. Such carelessness is properly punishable by law, for carelessness in the handling of milk may spread disease.

Citizens who observe anything apparently wrong with the milk sold to them sometimes make complaints to the milk inspector. Such complaints are welcome and they often call attention to matters which otherwise might escape observation.

The milk inspector's duty to you is not completed fully by confining his activities to the enforcement of the provisions of the law. Anything that concerns the quality of the milk supply is his business. Pasteurization makes milk safe, but before it is pasteurized we must have the cleanest, freshest and purest milk that is obtainable, and so today the improvement of the quality of the milk as produced on the farm is of prime importance. It must give a feeling of security to the consumer to realize that health officials, State Departments of Agriculture, State Experiment Stations, milk producers and milk dealers are all intensely interested in improving the quality of raw milk that is delivered in Boston for subsequent pasteurization.

It is the privilege of the milk inspector to aid in stimulating such interest by pointing out those particular spots in the milk supply which most need improvement.

The bacteria content of milk is a measure of its freshness and its safety. The greater the number of bacteria, generally speaking, the less wholesome the milk is. Small differences in bacteria content are, however, not significant. Twenty years ago it was common to find milk offered for sale in Boston with a bacteria content of several million per cubic centimeter. Today the standard is not more than 50,000 per cubic centimeter and the average bacteria content of milk delivered to you is less than 20,000 bacteria per cubic centimeter.

Contrast the present day milk supply with that of seventy years ago when milk inspection of Boston was first begun. Then diseased milk, watered milk, chalk and water mixed with and sold as milk, preservatives in milk, and every other conceivable form of adulteration of milk was the rule. Then the bacteria content of milk was several millions per cubic centimeter. Today the bacteria content of milk averages less than twenty thousand per cubic centimeter. Adulterated or watered milk has practically vanished. This is what milk inspection in Boston, built on a firm foundation laid by the pioneers in this work, has done for you.

Each month the milk inspector makes a survey of the average quality of the milk sold in Boston by each dealer in milk. The results of this survey are printed in the monthly "Bulletin" of the Boston Health Department and are available to you. This survey shows you that as a result of all of the milk and dairy inspection activities of the Boston Health Department there is available for your use a plentiful supply of clean, wholesome, safe milk at a price which makes milk the cheapest safe food that you can buy.

MOTHERS WHO NEED NOT DIE.

More than 16,000 women in this country die every year from causes related to motherhood. This record constitutes the highest death rate in the world. It is not surprising, therefore, to learn that two-thirds, or 10,000, of these deaths are preventable. The proof is at hand. In 4,700 cases cared for by the Maternity Center Association in the Bellevue-Yorkville district in New York the death rate was reduced to one-third of the general average for mothers in the same section who did not receive such service. In addition, the deaths of infants during their first month of life were reduced by a third. The result of this care at the maternity center was the establishment of a death rate for mothers below even that of Denmark, which has the lowest such rate known.

What is needed most is a more general realization that motherhood is a dangerous experience. Then the important information regarding diet, exercise and personal hygiene — of such great importance to expectant mothers — should be readily available. Economic reasons often prevent the employment of a physician for prenatal examinations and advice so it is the duty of every community to provide clinic facilities for this purpose.

Real economy requires the most skillful attendance at and for some time after the birth. The later health and the actual life of both the mother and the child hang in a delicate balance at this

time. The trend of the present is toward fewer and better babies. The tragedies of their arrival can and must be reduced in order that there be more and healthier mothers.

— *Trenton Health News*, March, 1931.

THE HIGH COST OF ILLNESS.

Whatever else has flopped during the present economic depression the cost of illness still maintains its high and unenviable position on the market. Indeed, except for the very poor, who perforce become objects of charity, it decidedly is no financial joke to be ill in this year of our Lord 1931. Hospitalization, in view of the heavy overhead and necessarily expensive equipment, is no small item. And physicians, too, have a right to expect payment for their services somewhat compensating them for the valuable and frequently extraordinary services they render.

And while there is no desire even to infer that the present quotations for medical service conscientiously rendered are beyond the figures that they should be, the point still remains that prolonged illness and operations are luxuries that few can afford without a definite pinch upon their pocketbooks.

This being so, it would appear reasonable for all to make a real and sustained effort, in so far as is possible, to avoid conditions that inevitably involve the expenditure of funds for the purpose of curing disease. Unfortunately, however, this phase of economy is frequently overlooked and in many more instances is shamelessly ignored. As a consequence, literally millions of dollars are spent by the American public for physicians' services and hospital treatment that would not have had to be spent if the interest of the individual had been centered even to a moderate degree upon the business of keeping well in the first instance.

It seems strange that pleasure (real or imaginary) and money-making should preclude and often crowd out the considerations of health and well-being. But the fact remains that the average person will devote time, energy and interest to such matters and turn his back upon any suggestion that is connected fundamentally with his own health.

True, he will give ready ear to the high-powered and high-salaried radio orators whose eloquence is directed to the sale on the health urge of anything from cigarettes to automobiles; and he will also be peculiarly sensitive to the multi-colored and fascinating advertising spreads which tell a similar story. But so far as seriously and daily following nature's mandates which, if conscientiously

obeyed, give some assurance for a long and healthy life — somehow he just cannot be bothered. It is too bad, but nevertheless it is true.

Eliminating the definite advantages of abounding vigor and vitality and all the joy and happiness attached to them, it will pay in cold dollars for everyone to live according to nature's dictates rather than to follow the devitalizing customs and habits which now make slaves and unnecessary invalids of so many.

Therefore, cut the high cost of illness with the low cost of obeying nature's laws. Thus save the capital which thousands, through their own direct carelessness, are now spending to make themselves well — or to pay for premature funerals.

— *Pennsylvania Health, April, 1931.*

HYGIENE OF THE TOWEL.

Pease and Himebaugh (*American Journal of Public Health*, 1930, 20, 820) state that the common towel in public or in the home is an ever-present menace as a potential carrier of disease, producing organisms which thus may be easily transferred to the hands of each new user. Whether for drying the face, hands or entire body, the employment of an individual single service towel constitutes a wise precaution against excessive numbers of relatively harmless or of disease-producing contaminations by bacteria already on previously used towels. The Turkish towel is more efficient than the huck or the paper towel in removing bacteria and dirt from the skin.

THE SEASONAL AND REGIONAL INCIDENCE OF TYPES OF MALARIA PARASITES.

Barber and Komp (*Public Health Report*, 1929, 44, 2057) present the following summary: (1) In the southeastern United States there is a marked predominance among malaria cases in the white race of *vivax* in the spring months and of *falciparum* in the autumn. (2) In the colored race there is less indication of a seasonal incidence of types of parasites, but the incidence of *falciparum* is higher in all months than in the white race. (3) A large proportion of the cases present mixed infections of *falciparum* and *vivax* at some time during their history. (4) The greater resistance of *vivax* to treatment or to other antimalaria influence is probably the most important factor in determining the seasonal variations of *vivax* and *falciparum* in the white race and of the high incidence of *falciparum* in the colored. (5) *Falciparum* apparently has not become well established in the Rio Grande Valley of Texas and New Mexico. *Vivax* is the most predominant type there at all seasons of the year.

DANGERS OF THE BATHTUB.

Recently the *Baltimore Sun* published an article on the dangers which are due to a bather handling electrical cords and fixtures with wet hands, the electricity coursing through him with attendant injury. Of course this is a real menace and, perhaps, as suggested, authorities will be justified in putting up danger signs in all bath rooms. A greater danger of the modern enamelled iron tub is the chance of slipping when there is a bit of misplaced soap or washing powder left by the cleanser and undetected because of the color, with consequent fractured ribs or other serious injuries resulting from a fall. This is a happening to older persons especially and one of too frequent occurrence. In the olden days the wooden box lined with tinned copper was much less of a peril. At all events the tub of those days, and there was seldom more than one in a household, had a hand hold on both sides so that the bather might prevent a slip. The past generation maintained that such a tub was not only less slippery but was warmer and of more comfort, although not susceptible of so much cleanliness. Nowadays the gleaming white tub — many a one in every house and hotel, even a tinted one in the *de luxe* bathing chambers seen in the advertisements — extends on one side into the wall of the room and there is no hand hold on that side for the incautious bather. A slip is more apt to occur. Why multiply the hazards of living? Could the statistics be obtained from the medical profession of the United States, the home of the bathtub, it is a fair guess that the number of serious injuries due to bathtub slippings would be very considerable. Let us urge the plumbers to set their tubs an inch or two away from the wall so that the bather may have hand grasps on both edges and thus lessen the dangers of the getting in and the getting out.

— *N. E. Journal Medicine*, February 19, 1931.

THE IMMUNIZING VALUE OF DIPHTHERIA TOXIN-ANTI-TOXIN MIXTURE AND OF DIPHTHERIA TOXOID.

Harrison (*Public Health Reports*, 1930, 45, 1883) discusses the merits of the preparations mentioned and makes the following conclusions: (1) In 475 school children diphtheria toxoid gave an immunity response, as measured by the Schick test, of 95 per cent as compared with 64 per cent in 355 children receiving 0.1 L+ dose toxin-antitoxin mixture. (2) No local or general reactions were reported in children receiving toxoid, those giving reactions to intracutaneous test injections of diluted toxoid having been removed from the group. (3) Two doses of 1 cc. each, with an interval of one month, produced a negative Schick reaction in a high percentage of subjects.

FLEAS MAY CARRY TYPHUS.

The Old World type of typhus fever has been known for many years. Its transmission has been shown to be due to the body louse. In making studies of cases of a milder type of this disease found in the United States, it was impossible to incriminate the body louse in many instances.

It has been believed for some time that there was some other agent which transmitted this disease, which is of more than passing interest, as studies by the Public Health Service have indicated the occurrence of a number of cases of endemic typhus fever in several areas of the United States. A report recently made public by the Public Health Service shows that there is strong evidence to indicate that fleas may be the means of transmission of this disease from person to person or from a possible rodent reservoir to human beings. This discovery is of much importance and may be of value in the prevention of the spread of this disease.

— *Ohio Health News*, April 15, 1931.

SUMMARY OF WORK, APRIL, 1931.

ADMINISTRATION DIVISION.

Legal notices	197	Forcible removals	3
Prosecution ordered	1	Hearings	2
Vacate notice	1	Personnel:	
Settlements:		Permanent appointments	2
Total cases	147	Temporary appointments	5
Notices	110	Provisional appointment	1
Bills	37	Resignations	3
Contracts approved	2	Leave of absence	1

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,172	Lying-in hospital approved	1
Denatured alcohol approved	206	Dump permits approved	4
Hen licenses approved	384	Garbage transportation ap-	
Massage-manicure approved	34	proved	1
Ice cream dealers approved	1,807	Milk licenses approved	2,323
Ice cream manufacturers ap-		Pedlers' licenses approved	131
proved	43	Undertakers	2
Grease approved	49	Manure	1
Offensive trades	2		

MEDICAL DIVISION.

Reported cases	2,016	Visits:	
Nonresidents	80	By V. D. investigator	398
Deaths investigated	70	By medical inspectors to cases	
		of communicable disease	556

BACTERIOLOGICAL LABORATORY DIVISION.

DIPHTHERIA:		
Positive for diagnosis	22	
Positive for release	26	
Negative for diagnosis	424	
Negative for release	57	
No growth cultures	71	600
DARK FIELD, TREPENEMA PALLIDA:		
Positive	3	
GONORRHEAL OPHTHALMIA:		
Negative	68	
Unsatisfactory	1	69
GONORRHEAL URETHRITIS:		
Positive	130	
Negative	778	908
MALARIA:		
Negative	3	
MISCELLANEOUS EXAMINATIONS: *		
Positive	14	
Negative	50	
Unclassified	254	318
GENITO URINARY TUBERCULOSIS:		
Positive	1	
Negative	18	
Unsatisfactory	1	20
TUBERCULOSIS:		
Positive	50	
Negative	334	
Unsatisfactory	7	391
TYPHOID:		
Positive	1	
Negative	30	
Unsatisfactory	2	33
SYPHILIS:		
Positive	79	
Negative	931	
Unsatisfactory	9	
Doubtful	10	
Bacteriological milk examinations		1,029
Total		591
		3,965
Swimming pools examined		64
Milk bottles examined		12
Caps for milk bottles examined		36

* Unit urines, 251; Vincent's angina, 22; virulence, 8; culture from toe, 1; broilers for organisms, 1; ham for organisms, 1; ham for trichinai, 1; paratyphoids, 2; pus for organisms, 1; fried chicken for organisms, 1; meat lungs for organisms, 1; pickled pig feet for molds, 1; blood for organisms, 1; pork sausage for decomposition, 1; beef (Edgewood) T. B. glands, 1; urine culture, 1; culture for streptococci, 20; streptococcus hemolyticus, 3.

FOOD DIVISION.

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during April, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medial Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association, using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.....	12.24	3.70	17,000
Antetomasso, Peter.....	12.62	3.92	13,000
Brandley, T. J. & P. J.....	12.33	3.80	6,000
Buxton, William E.*.....	13.72	4.60	375
Casey, James D.....	12.75	3.99	9,000
Cashin, J. F., & Co.*.....	12.44	3.92	11,000
Cedar Hill Farm, Inc.*.....	12.60	3.88	650
Chapin, George L.....	12.67	4.03	9,000
Clark, Levi.....	12.00	3.65	18,000
Corkery, John J.....	12.54	3.83	25,000
Cosgrove, Martin S.....	12.27	3.78	17,000
Daley, John.....	12.41	3.68	185
Dean, Louis W.*.....	13.56	4.55	26,000
Deerfoot Farm Company.....	12.99	4.22	16,000
Denehy, Timothy.....	12.66	3.93	13,000
Driscoll, William B., Company.....	12.14	3.68	11,000
Elm Spring Farm Company.....	12.40	3.84	23,000
Ferguson, Malcolm D.....	12.33	3.80	14,000
Garfield, Mason *.....	14.37	5.40	1,600
Garvin, Charles.....	14.19	5.10	125
Giroux, J. E. & H. J.....	12.43	3.87	26,000
Griffin, Joseph L.....	12.69	3.91	11,000

* All milk from cows tuberculin tested under state and federal supervision.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Gushee, Chester W.....	12.52	3.90	14,000
Hampden Creamery Company.....	12.73	3.96	16,000
Herlihy Brothers, Inc.....	12.22	3.67	26,000
Hickey, J. B.....	12.51	4.10	10,000
Holden, John E.....	12.28	3.79	27,000
Hood, H. P., & Sons, Inc.....	12.32	3.78	10,000
Hutchinson, Frank T.....	12.68	4.13	13,000
Jones, William T., Company.....	12.59	3.90	25,000
Kendall Brothers.....	12.47	3.75	25,000
Kingston Brothers.....	12.40	3.78	13,000
Knapp, George J.*.....	12.45	3.82	11,000
Lang Brothers.....	12.33	3.75	20,000
Larsson, Charles*.....	12.57	3.78	25,000
Lyndonville Creamery Association.....	12.55	3.91	31,000
Manning, Harriet.....	12.33	3.80	28,000
Marlboro Dairy Company, Inc.....	12.93	4.48	1,200
McAdams, J. F., & Brothers, Inc.....	12.71	3.95	11,000
McKernan, John.....	12.56	3.80	12,000
New England Creamery Products Company*.....	12.58	3.94	25,000
Prescott, J. B., & Co.....	12.56	4.20	34,000
Robinson, A. J.*.....	12.66	3.85	11,000
Schuster, Adam*.....	12.52	3.80	24,000
Seven Oaks Dairy Company.....	12.37	3.85	16,000
Shawsheen Dairy, Inc.....	13.14	4.17	8,000
Shick, Jacob.....	12.46	3.70	11,000
Somerset Farm Creamery Company.....	12.90	4.10	8,000
Sterling Farm Milk Company.....	12.30	3.78	10,000
Stone, H. L.....	12.23	3.70	13,000
Stuart, W. E., Company.....	12.50	3.90	13,000
Turner Centre System, Inc.....	12.27	3.73	24,000
United Farmers Cooperative Creamery Association, Inc....	12.48	3.98	11,000
Walker-Gordon Laboratory Company*†.....	12.76	4.15	50
Weiler, E., & Son.....	12.56	3.85	10,000
Westwood Farm Milk Company.....	12.38	3.80	7,000
White Brothers.....	12.53	3.88	11,000
Whiting Milk Companies.....	12.35	3.72	17,000
Whittemore, W. D.*.....	12.75	3.96	11,000
Wiswall, Granville A.....	12.57	3.83	10,000
Woodland, Charles L*.....	12.62	4.05	12,000

* All milk from cows tuberculin tested under state and federal supervision.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P. & Sons, Inc....	12.32	3.70	27,000
M. Brown & Sons.....	Whiting Milk Companies...	12.47	3.78	17,000
The Cloverdale Company.....	Herlihy Brothers, Inc.....	12.25	3.70	31,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.....	12.30	3.77	18,000
First National Stores, Inc.....	Bellows Falls Cooperative Creamery Association.	12.99	4.13	11,000
Morgan Brothers Company.....	New England Creamery Products Company and United Farmers Cooperative Creamery Association, Inc.	12.57	4.00	14,000
M. Winer Company.....	M. Winer Company.....	12.56	4.03	16,000

GRADE A MILK — PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.50	4.60	7,000
Cashin, J. F., & Co.....	12.64	4.42	13,000
Corkery, John J.....	13.64	4.70	9,000
Cosgrove, Martin S.....	13.04	4.13	9,000
Dean, Louis W.*.....	13.22	4.10	1,800
Elm Spring Farm Company.....	12.76	4.10	16,000
Griffin, Joseph L.....	13.15	4.30	8,000
Gushee, Chester W.....	12.84	4.15	24,000
Herlihy Brothers, Inc.....	12.41	4.18	7,000
Hood, H. P., & Sons, Inc.*.....	12.52	4.08	6,000
Jones, William T., Company.....	13.13	4.40	6,000
Lyndonville Creamery Association.....	13.21	4.10	5,000
McAdams, J. F., & Brothers, Inc.....	12.96	4.30	7,000
New England Creamery Products Company*.....	13.22	4.30	13,000
Robinson, A. J.*.....	13.43	4.85	7,500
Seven Oaks Dairy Company.....	13.08	4.23	5,000
Sterling Farm Milk Company.....	12.95	4.10	9,000
Turner Centre System, Inc.....	12.58	4.05	6,000
White Brothers*.....	12.70	4.30	5,000
Whiting Milk Companies*.....	12.46	4.08	6,000
Woodland, Charles L.*.....	13.31	4.50	2,000

* All milk from cows tuberculin tested under state and federal supervision.

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farm Company.....	Alta Crest *.....	13.45	4.20	2,000
Hood, H. P. & Sons, Inc.....	Own *.....	13.32	4.15	1,000
Walker-Gordon Laboratory Company.	Own *.....	12.65	4.10	1,000
Whiting Milk Companies.....	Hampshire Hills.....	12.36	3.36	800

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons Inc.*.....	Own.....	13.73	4.50	None.

* All cows tested and reported free from infectious abortion.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	457
Milk from stores	733
Vinegar	24
Miscellaneous	13

Samples referred to Bacteriological Laboratory for examination:

Milk	591
Bottles	12
Caps	36

DAIRY DIVISION.

Total services	1,544	Total cattle inspected	10,178
Dairies inspected	641	Inspection of milk plants and licensed dealers	319
Scoring above 50*	484	Country creamery inspections	4
Scoring below	157	Sediment tests	256
With milk rooms	538	Investigations of high bacterial counts	2
Without milk rooms	103		
Inactive	25		

* Passable mark.

FOOD INSPECTION DIVISION.

APRIL, 1931.

District inspections	3,951
Reinspections	325
Market inspections	1,263
Terminal inspections	693
Vehicle inspections *	3,665
Stand inspections	1,218
Complaints	30
Notices to abate	131
Condemnations	52

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	2,570	Parts condemned	564
Calves inspected	4,922	Animals condemned	38
Swine inspected	3,434	Total of meat condemnations (pounds)	9,801
Sheep inspected	376		

SANITARY DIVISION.

Original inspections	3,985	Complaints investigated	650
Causes for action found	2,236	Nuisances abated	2,038
Reinspections	7,112	Routine inspections	2,277
Legal notices served	170		

PROTECT YOURSELF BEFORE STARTING ON VACATION.

Many cases and deaths from typhoid fever occur in the summer after people have returned from vacation. They can be prevented by simple measures. Antityphoid inoculation may be given by your physician or free of expense by the Health Department. This is a safeguard for yourself, the community and the entire city.

Human efficiency is not promoted by the ease of existence. The practical usefulness of people depends not upon their numbers or the rapidity of individual growth, but upon their mental, moral and physical ability to overcome obstacles to their well-being.

TUBERCULOSIS DIVISION.

In the month of April there were eighty-two day clinic sessions and thirty-six evening clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	12	18	30	48	3	1	1	2
East Boston.....	6	5	17	22	4	2	—	2
North End.....	7	4	13	17	5	2	—	2
West End.....	9	3	2	5	3	2	—	2
South Boston.....	7	12	15	27	5	—	—	—
Boston Dispensary.....	8	17	3	20	—	—	—	—
Brighton.....	4	1	1	2	3	3	3	6
Charlestown.....	5	7	8	15	4	1	—	1
Codman Square.....	8	8	11	19	4	2	1	3
Hyde Park.....	5	4	5	9	5	1	—	1
Arcadia Street.....	5	7	3	10	—	—	—	—
Roxbury.....	4	13	8	21	—	—	—	—
Totals.....	82	99	116	215	36	14	5	19

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	97	147	244	12	2	14
East Boston.....	48	135	183	11	—	11
North End.....	24	116	140	8	3	11
West End.....	23	70	93	7	—	7
South Boston.....	32	86	118	10	2	12
Boston Dispensary.....	56	13	69	—	—	—
Brighton.....	8	11	19	7	7	14
Charlestown.....	30	93	123	2	—	2
Codman square.....	76	103	179	15	3	18
Hyde Park.....	30	49	79	17	—	17
Arcadia street.....	26	39	65	—	—	—
Roxbury.....	77	89	166	—	—	—
Totals.....	527	951	1,478	89	17	106

DISTRICTS.	DAY CLINIC.			NIGHT CLINIC.		
	Von Pirquet.	Wassermann.	Lamps.	Von Pirquet.	Wassermann.	X-Ray.
South End.....	46	13	125	1	—	166
East Boston.....	46	3	—	—	—	44
North End.....	36	3	—	—	2	30
West End.....	5	4	—	—	2	23
South Boston.....	27	8	127	—	—	92
Boston Dispensary.....	6	4	—	—	—	—
Brighton.....	6	2	—	3	—	—
Charlestown.....	12	9	—	1	—	45
Codman square.....	33	7	—	1	1	—
Hyde Park.....	18	2	—	3	1	—
Arcadia street.....	5	7	—	—	—	—
Roxbury.....	12	11	—	—	—	33
Totals.....	252	73	252	9	6	433

CHILD HYGIENE DIVISION.

Report of Medical Inspection of Parochial Schools, April, 1931.

Schools visited	309
Number of children seen	1,780
Number of children excluded	18
Number of children readmitted	786
Number of children examined	934

LAW ON BIRTH REPORTING.

Chapter 46, General Laws, section 3: Every physician, or hospital medical officer registered under section 9 of chapter 112, shall keep a record of the birth of every child in cases of which he was in charge, showing date and place of birth, the name, if any, of the child, its sex, color, the name, age, birthplace, occupation and residence (including the street number, if any, and the ward number, if in a city) of each parent, the maiden name of the mother and the name of the physician or officer, if any, personally attending the birth. If the child is illegitimate, the name of and other facts relating to the father shall not be set forth except upon written request of both the father and the mother. Said physician or officer shall, within fifteen days after such birth, mail or deliver to the clerk or registrar of the town where such birth occurred, a report stating the facts herein above required to be shown on said record and also the said written request, if any; provided that if said report is not made within forty-eight hours after such birth, said physician or officer shall, within forty-eight hours, mail or deliver to said clerk or registrar a notice stating the date and place of birth, the street number, if any, the ward number, if in a city, and the family name; upon presentation to him of a certificate of the town clerk stating that any such birth has been duly reported, the town treasurer shall pay to such physician or officer a fee of 25 cents for each birth so reported.

Any physician or any such officer violating any provision of this section shall forfeit not more than twenty-five dollars.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING APRIL, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	9	23.08
Seven days or less.....	2	5.13
Eight to fourteen days, inclusive.....	1	2.56
Fifteen to twenty-one days, inclusive.....	—	—
Twenty-two to thirty-one days, inclusive.....	1	2.56
WITHIN FIRST MONTH. (Total).....	13	33.33
Within second month.....	4	10.26
Within third month.....	—	—
Within fourth month.....	3	7.69
Within fifth month.....	2	5.13
Within sixth month.....	—	—
Within seven month.....	—	—
Within eighth month.....	—	—
Within ninth month.....	—	—
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelve month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	22	56.41
Within second year.....	4	10.26
Within third year.....	1	2.56
More than three years.....	12	30.77
Grand totals.....	39	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF APRIL, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	29	13	27	13
North Reading State Sanatorium.....	6	4	1	2
Lakeville State Sanatorium.....	2	2	1	2
Rutland State Sanatorium.....	1	—	—	1
Westfield State Sanatorium.....	—	—	—	1
Tewksbury.....	—	—	—	—
Totals.....	38	19	29	19

PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	—
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	2	—	3	—
Doctor Crane's Sanatorium.....	—	—	—	—
Totals.....	2	—	3	—

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, April, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	221	16	237	27	1	28	5	48
Lincoln street.....	97	13	110	15	—	15	5	22
Charlestown.....	373	43	416	42	10	52	8	52
Codman square.....	406	68	474	63	4	67	8	59
Columbia road.....	335	10	345	46	2	48	8	43
Arcadia street.....	344	16	360	48	—	50	9	40
East Boston.....	368	16	384	69	2	71	8	48
Hyde Park.....	222	42	264	35	—	35	9	29
Jamaica Plain.....	296	27	323	45	1	46	5	64
North End.....	179	87	266	28	3	31	9	30
Roslindale.....	200	29	229	28	2	30	3	76
Roxbury.....	550	22	572	76	2	78	13	44
Children's Hospital.....	116	21	137	11	3	14	4	34
South Boston.....	329	53	382	66	2	68	9	42
South End.....	305	25	330	57	4	61	9	37
Tyler street.....	114	36	150	10	—	10	4	38
West End.....	383	84	467	28	5	33	8	58
1049 Columbus avenue.....	395	40	435	46	5	51	9	48
Totals.....	5,233	648	5,881	740	48	788	133	45

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, APRIL, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	5	7	15	27	6
Lincoln street.....	—	—	5	5	1
Charlestown.....	20	22	20	62	30
Codman square.....	25	21	13	59	41
Columbia road.....	8	4	4	16	14
Arcadia street.....	6	—	—	6	16
East Boston.....	2	2	—	4	—
Hyde Park.....	20	18	14	52	13
Jamaica Plain.....	2	2	4	8	5
North End.....	—	—	—	—	—
Roslindale.....	4	—	—	5	15
Roxbury.....	21	15	13	49	23
Children's Hospital.....	12	7	4	23	4
Columbus avenue.....	7	8	8	23	51
South Boston.....	1	1	1	3	—
South End.....	7	4	4	15	19
Tyler street.....	3	11	7	21	8
West End.....	5	2	—	7	3
Totals.....	148	124	113	385	249

REPORT OF MEDICAL INSPECTORS, APRIL, 1931.

Inspections	348
Physical examinations	455
Schick tests	18
Toxin-antitoxin	297
Vaccination at units	218
Vaccination certificates	107
Day nursery visits	18
Conferences	17

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, APRIL, 1931.

UNIT.	Number of Patients.	Number of Operations.
West End.....	702	1,093
North End.....	670	1,235
South End.....	656	972
East Boston.....	664	1,100
South Boston.....	924	1,612
Roxbury.....	751	948
Charlestown.....	611	1,076
	4,978	8,036

COOPERATIVE HEALTH UNIT REPORT, APRIL, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physicians.....	87				64		97	248
HULL STREET DISPENSARY:								
Calls by district physicians.....			16					16
BOSTON LYING-IN HOSPITAL:								
Prenatal clinics.....	4	4	4	3	5	5	5	30
Attendance.....	30	90	51	18	50	33	75	347
New cases.....	5	20	15	10	17	11	24	102
CHILDREN'S HOSPITAL:								
Infantile clinics.....	5	4						9
Attendance.....	34	24			5	4		18
New cases.....					87	17		162
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	5			3	4	10	26
Attendance.....	38	42			32	53	177	342
AMERICAN RED CROSS:								
Home Nursing Classes.....					5			5
Attendance.....					91			91
BOY SCOUTS OF AMERICA:								
Meetings.....				1				1
Attendance.....				15				15
JEWISH WELFARE SOCIETY:								
Meetings.....							1	1
Attendance.....							11	11
STATE DEPARTMENT OF MENTAL DISEASES:								
Habit-forming clinics.....							5	5
Attendance.....							61	61
New cases.....							4	4
HEALTH DEPARTMENT:								
Refraction Service:								
Number of refractions.....			104					104
Diagnoses.....			130					130
New glasses recommended.....			44					44
New cases.....			19					19
Nose and Throat Service:								
Clinics.....							3	3
Attendance.....							132	132
Operations recommended.....							48	48
Mothers' Clubs Meetings (HDD):								
Meetings.....				1	1		1	3
Attendance.....				8	10		8	26

NURSING SERVICE.

REPORT FOR APRIL, 1931.

HOMES VISITED	15,602
CHILD HYGIENE:	
Visits to new cases	1,123
Visits to old cases	8,689
	<u>9,812</u>
Included are:	
Wrong addresses	87
Not seen *	868
	<u>955</u>
COMMUNICABLE DISEASES:	
Visits to new cases	1,265
Visits to old cases	2,191
	<u>3,456</u>
Included are:	
Wrong addresses	41
Not seen *	94
	<u>135</u>
TUBERCULOSIS:	
Visits to new cases	168
Visits to old cases	4,604
	<u>4,772</u>
Included are:	
Wrong addresses	25
Not seen *	377
	<u>402</u>
Absent visits	402
Positive cases visited	2,131
Contact cases visited	1,838
Suspect cases visited	401
	<u>4,772</u>
MISCELLANEOUS VISITS:	
Maternal death investigations	3
Patients accompanied to hospital	6
Visits to day nurseries	40
Visits to parochial schools	447
Other special visits	6
	<u>502</u>
	<u>18,582</u>
	Hrs. Mins.
Hours in station by nurses	3,241 56
Hours at baby and pre-school conference	1,760 21
Hours at tuberculosis clinic	749 29
Hours at nurses' conference	270 30
Hours at posture classes	3 —
Hours at mothers' classes	3 15
Hours at special meetings	253 10
	<u>6,281 01</u>
Total number of hours	6,281 01

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, APRIL, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING APRIL, 1931, WITH COMPARATIVE FIGURES FOR APRIL, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	977	1,066	—89	14.93	16.36	—1.43
Nonresidents deducted.....	774	846	—72	11.83	12.98	—1.15
By Age:						
Under one year.....	108	116	—8	1.65	1.78	— .13
One year to four years, inclusive.....	24	60	—36	.37	.92	— .55
Sixty years and over.....	402	448	—46	6.14	6.87	— .73
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,240	1,346	—106	18.95	20.65	—1.70
b. Registered stillbirths.....	38	39	—1	.58	.60	.02
Stillbirths per 1,000 live births and stillbirths.....	—	—	—	29.73	28.17	+1.56
c. Deaths of mothers from causes incident to childbirth.....	11	13	—2	.17	.20	— .03
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	8.61	9.39	— .78
d. Deaths in first year per 1,000 live births..	108	116	—8	87.10	86.18	+ .92
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	48	47	+1	73.3	72.1	+1.2
Homicides.....	1	3	—2	1.5	4.6	—3.1
Suicides.....	11	15	—4	16.8	23.0	—6.2
Automobile accidents * (death in Boston)...	15	10	+5	22.9	15.3	+7.6
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	10	8	+2	15.3	12.3	+3.0
Broncho-pneumonia.....	47	80	—33	71.8	122.8	—51.0
Cancer.....	101	112	—11	154.3	171.8	—17.5
Cirrhosis of the liver.....	10	4	+6	15.3	6.1	+9.2
Diabetes mellitus.....	18	25	—7	27.5	38.4	—10.9
Diarrhea and enteritis (under two years)....	1	10	—9	1.5	15.3	—13.8
DEGENERATIVE DISEASES, SO CALLED:						
Arterio sclerosis.....	23	28	—5	35.1	43.0	—7.9
Cerebral hemorrhage.....	63	61	+2	96.3	93.6	+2.7
Heart disease.....	200	182	+18	305.6	279.3	+26.3
Nephritis, chronic.....	70	70	—	107.0	107.4	— .4

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING APRIL,
1931, WITH COMPARATIVE FIGURES FOR MARCH, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 1	1	—	1.5	1.5	—
	Deaths.. —	—	—	—	—	—
Cerebrospinal meningitis.....	Cases.. 1	7	—6	1.5	10.7	—9.2
	Deaths.. —	7	—7	—	10.7	—10.7
Diphtheria.....	Cases.. 66	89	—23	100.8	136.6	—35.8
	Deaths.. 7	3	+4	10.7	4.6	+6.1
Influenza.....	Cases.. 6	17	—11	9.2	26.1	—16.9
	Deaths.. 5	3	+2	7.6	4.6	+3.0
Measles.....	Cases.. 447	2,009	—1,562	683.0	3,082.9	—2,399.9
	Deaths.. —	11	—11	—	16.9	—16.9
Pneumonia (lobar).....	Cases.. 148	207	—59	226.1	317.6	—91.5
	Deaths.. 58	84	—26	88.6	128.9	—40.3
Scarlet fever.....	Cases.. 466	371	+95	712.1	569.3	+142.8
	Deaths.. 6	8	—2	9.2	12.3	—3.1
Tuberculosis (pulmonary).....	Cases.. 136	149	—13	207.8	228.6	—20.8
	Deaths.. 39	53	—14	59.6	81.3	—21.7
Tuberculosis (other forms).....	Cases.. 14	30	—16	21.4	46.0	—24.6
	Deaths.. 1	6	—5	1.5	9.2	—7.7
Typhoid fever.....	Cases.. 2	1	+1	3.0	1.5	+1.5
	Deaths.. —	1	—1	—	1.5	—1.5
Whooping cough.....	Cases.. 128	223	—95	195.6	342.2	—146.8
	Deaths.. 1	8	—7	1.5	12.3	—10.6

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

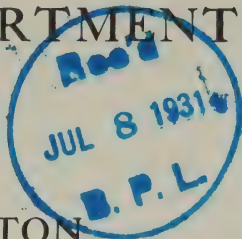
For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

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MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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No. 6

WHY APPENDICITIS CASES DIE.

In the "Journal of the American Medical Association" of May 2, 1931, there appears an article entitled "Acute Appendicitis," by John O. Bower, M. D., of Philadelphia, in which are embodied the results of a study of the causes of appendicitis mortality in Philadelphia.

The investigation was authorized by Dr. A. A. Cairns, director of the City Department of Public Health. It was inspired by an apparent increase of 18 per cent in mortality from appendicitis in Philadelphia from 1913 to 1923 — in a city which is a medical center, with splendid hospitals and a population accustomed to take advantage of them.

The investigation covered the management of cases in hospitals as well as the history of cases outside. As might be expected, the study showed that the mortality increases directly as the length of time between the onset of symptoms and operation. There were variations in the mortality among the different hospitals but we read, "hospital mortality as considered in this report is a misnomer because the greater part of the mortality is due to factors that have originated outside the hospital." Doctor Bower, however, feels justified in stating that mortality from appendicitis definitely decreases with the experience of the surgeon. He says, "This is uni-

formly true in the management of the abnormally situated appendix and in that all-important factor in the mortality of acute appendicitis, general peritonitis. There is no disorder of the human body in which surgical judgment influences the outcome so frequently or so markedly as in general peritonitis." . . . "After the patient enters the hospital, the greatest factor influencing mortality is the management of general peritonitis, which is a subject for discussion by the surgeons. This problem of the surgeon is a minor one when compared with the prehospital or prophylactic treatment of peritonitis and can be conservatively placed at a 10 to 90 ratio from the standpoint of influencing the mortality rate. The pertinent point is that the prehospital factors as represented by 90 are controllable. They can be eliminated and, if they were, general peritonitis, the cause of hospital mortality, would be reduced to a minimum and the figure 10 replaced by a 1 or 2 representing catastrophies which will always play a part in surgical mortality."

In considering the influence of delay in operating on mortality the author says, "A patient in good physical condition in ninety-nine instances out of one hundred is safe if operated on within the first twelve hours."

According to the Philadelphia investigation, the use of laxatives share, with delay in operating the responsibility for mortality in appendicitis. Doctor Bower says, "Without exception, patients developing perforation with fulminating peritonitis before twelve hours have been given laxatives." . . . "Localization of the infection either in the appendix or directly outside, resulting in a local peritonitis, takes place when the intestines are quiet — increased peristalsis, increased intra-appendical tension, perforation, general peritonitis, overwhelming intoxication and death follow the administration of laxatives."

Shortly before his death, a few years ago, the late Professor Sedgwick of the Massachusetts Institute of Public Health, was quoted as saying, "Anybody now seems to feel competent to instruct the public regarding their health." No better exemplifications of the old saying "a little knowledge is a dangerous thing" are to be found than in present-day popular public health instruction.

It was discovered years ago that the mortality from "tropical" dysentery was greatly reduced by the prompt administration of castor oil. One factor in the reduction of infant mortality has been the practice of "washing out the alimentary canal" instead of attempting to check nature's efforts in this direction as was once deemed to be proper treatment. Gradually the public has been educated to discard the old ideas and to regard a laxative as the proper treatment of symptoms supposed to indicate the presence

of undigested poisonous irritating material in the digestive tract. Probably on the whole the result of such teaching has been beneficial but occasionally the consequences are disastrous.

One unfortunate effect of popular health education is to stimulate a natural tendency to try to do something for a person sick or in distress by making people feel that something always should be done. It is going to be difficult to make people realize that under any circumstances it is a greater act of kindness to do nothing at all than to do something without perfectly clear reasons for doing it. Many a simple fracture has been converted into a compound fracture by trying to give a victim of an accident approved "first aid." A severed large artery, a blocked windpipe, or unconsciousness from immersion or gas are practically all the conditions in which restorative efforts of nature are likely to be unsuccessful without prompt artificial aid. A person who faints is usually in a good position for speedy recovery if left where he falls. Secretary of the Treasury Windom, who fainted at a banquet, died because his zealous first aiders insisted in propping him up in a chair. Keeping the body horizontal is usually sufficient to relieve an embarrassed heart, if relief is not virtually hopeless. Heart stimulants or capillary dilators are helpful only when used rationally. President Garfield was not killed by an assassin's bullet, but by a first-aid doctor, whose dirty finger infected what would otherwise have been an inconsequential wound. A good prospect of an unconscious man for a long life may disappear when the police come running up with a pulmotor.

In an article entitled "Bellyaches," appearing in the "Bulletin" for November, 1930, the following may be found:

"It is usually presumed that a sudden attack of abdominal pain is due to something that has been eaten. . . . Besides appendicitis, other dangerous acute abdominal conditions are to be thought of in cases of persistent abdominal pain, tenderness and disorderly action of the alimentary tube.

"In all obstructive interference with the passage of intestinal contents a general bodily poisoning develops and rapidly diminishes chances of recovery from an operation, no matter how skillfully done. Acute attacks of appendicitis frequently recover without operation, but the chances of the spontaneous recovery from an intestinal twist or volvulus are not worth considering. While abdominal operations may be performed unnecessarily, it is to be remembered that when abdominal pain and functional disturbance with evidence of general systemic effects have persisted for several hours without obvious cause, and with no positive tendency for

symptoms to become less serious, there is usually more risk in waiting than in operating, provided the requisite skill and experience are available."

As is to be inferred from the above quotations, laxatives may be as futile and dangerous in other serious abdominal conditions as in appendicitis. Even in those abdominal conditions due to the presence of undigested poisonous irritating foodstuff in the intestines, laxatives are seldom needed when the symptoms first appear. A normal alimentary tube will usually react promptly enough to relieve itself by a diarrhea. Rational practice dictates that laxatives be withheld until it is evident that there is a need of pouring more fluid from the blood into the intestinal canal to flush it out properly.

The presence of an unusual amount of liquid in the intestine by its mere bulk alone will stimulate intestinal peristaltic movements. It is a fundamental principle that general and local rest favor nature's efforts to check the spread of an infective process anywhere. The extension of infection from an infected finger may be checked by keeping the hand quiet and putting the arm in a sling. Further help may be supplied by keeping the whole body quiet. Many a good prospect for recovery from pneumonia has vanished when a patient has been taken out of his bed and jounced off in an ambulance to a hospital for "better care." The same process holds true if the infection be in the abdomen instead of the finger. The quieter the intestinal canal be kept, the better. Whatever other effect a laxative may have in interfering with nature's effort to localize an abdominal infection, a laxative increases the bulk of the fluid in the intestines and this stimulates intestinal peristalsis. There should be bodily rest and abstinence from food as well as from laxatives until the cause of abdominal pain can be definitely determined.

In a practical effort to check mortality from appendicitis in Philadelphia, we read in Doctor Bower's article, as follows:

"There were 300,000 stickers supplied by the Philadelphia County Medical Society and sent to 3,813 physicians with two editions of 'Healthfax.' The interest shown by many physicians was manifested in requests for an additional supply. The stickers include the following warning. "In the presence of abdominal pain give nothing by mouth. Never give a laxative. Call your family physician. Abdominal pain which persists six hours is usually dangerous."

Through the Retail Druggist Association the Director of Public Health requested that each purchaser of castor oil, citrate of magnesia, epsom salts, or other laxatives, be questioned if the drug is

to be given in the presence of abdominal pain. Doctor Bower's article concludes with the following paragraph:

"The greatest number of cases of appendicitis occurs between the years of 11 and 20, when the percentage of mortality is next to the lowest in the whole group. The smallest number occurs between 61 and 70. In every decade the males outnumber the females considerably, but they seem to have more resistance to the disease."

In the article on appendicitis mortality, appearing in the April "Bulletin," it was suggested that the apparent difference in mortality from appendicitis in the United States as compared with foreign countries might be explained by differences in practices in recording and compiling "causes of death" notwithstanding international conventions regarding this matter. There seems, however, to be no reason to doubt that mortality from appendicitis is tending to increase in this country. It would seem to be equally probable that such mortality is resulting from the more frequent occurrence of an inflammatory infection of the appendix calling for operative treatment.

In any event, the occurrence of and the mortality from appendicitis in this country has become a matter of sufficient importance to call for efforts on the part of those who are paid to protect public health to discover the cause and the means of prevention. As the appendix is a part of the digestive apparatus it is natural to suspect that the increased frequency of surgical appendicitis must have a direct dietary cause. This does not necessarily follow. There are other infective processes to which susceptibility also seems to be increasing. A comprehensive investigation would probably show that mastoid infections were likewise increasing. Such an investigation might indicate that, unlike appendicitis, mortality was being increased by too hasty operations, by cutting into and opening up new tissue to infection and thus defeating nature's regular effort to encapsulate and localize an infective process.

Appendicitis is an infective process. If we care to look for it we will find ample evidence that susceptibility to some infective processes is increasing, as well as the evidence of decreased susceptibility to others, which we are accustomed to produce to show the efficacy of public health "activities." It is claimed on the basis of published statistics that maternal mortality from infective causes is much higher in this country than in Europe.

An apparent decrease in susceptibility to typhoid fever and to certain other infections of the digestive tract, as reflected especially in a decrease in infant mortality, is attributable to successful efforts to protect food and drink from possibly harmful contamination. This is, however, not nature's way of protecting life. Nature's

method of protection is by developing an immunity as the result of exposure to possibly harmful agents. We find evidence of the operation of this process in decreased mortality from tuberculosis, diphtheria, scarlet fever and measles. Where we find evidence of increasing susceptibility to an infective process it is justifiable to suspect a new and unaccustomed infective agent, or increased virulence, or more active combinations on the part of old ones. Recent studies indicate that the development of resistance to infection is not as simple a matter as once inferred; that it varies fundamentally with different agents with infective potentialities and is on the whole a most complicated affair. We are far from a state of knowledge which will enable us to say what factors may affect susceptibility to an infective process, but we have learned enough to make it probable that the apparent increase in surgical appendicitis is the result of the operation of some biological law rather than the effect of some article of diet.

MILK AND CREAM REQUIRE SPECIAL CARE IN WARM WEATHER.

The Milk and Dairy Inspection activities of the Boston Health Department provide for your use a plentiful supply of pure, clean, fresh and safe pasteurized milk. When it is delivered to you such milk is the cheapest safe food you can buy.

After it comes into your possession some care on your part is necessary, however, if the wholesome food values originally in the milk are to remain without depreciation before the milk is used, and there is special need for this care during warm weather.

The following rules will aid you in keeping your milk sweet and wholesome:

Never allow milk or cream to stand in the sun or in any warm place. To do so heats the milk to a temperature which permits bacteria to multiply rapidly and thereby decompose the milk and produce unpleasant flavors in it.

Never allow milk or cream to be exposed to light, either artificial or, especially, sun light (direct or indirect), any longer than is absolutely necessary. To do so results in the chemical action of the light upon the milk and the production of unpleasant flavors in it.

When your milk or cream is delivered have it delivered preferably in some place where it can be in the dark. If it must be delivered outdoors prepare a milk box with a door to receive your milk.

After delivery always bring your milk into the house as soon as possible. Wash off the cap and especially the lip of the bottle with

clean, cold, running water and then wipe the cap and the lip of the bottle with a clean dry cloth, and, finally, wipe dry the rest of the bottle.

At all times in the year, and especially during warm weather, get your milk into the refrigerator as soon as possible and keep it there when not in use. If you have a mechanical refrigerator keep the milk close to the chiller. If you have an ice refrigerator keep your milk as close to the ice as you can get it, for in such refrigerators portions of the refrigerator remote from the ice are too frequently above fifty degrees Fahrenheit and to keep milk well it must be kept below fifty degrees Fahrenheit.

Never expose milk or cream to strong odors. After a bottle of milk or cream is opened keep the unused portion in the bottle after replacing the cap and replace the bottle in the refrigerator.

Of all the above rules the most important is keep your milk cold at all times when not in use. This is because at temperatures above fifty degrees Fahrenheit the number of bacteria in milk increases very rapidly, and as they grow they decompose the milk which rapidly becomes more and more unfit for food and especially dangerous to babies.

Observe the above rules and babies, children, mothers, and the entire community will benefit.

MEASLES A DANGEROUS DISEASE.

Measles has been directly responsible for more than one hundred deaths in Boston in a single year, and indirectly for many more, as well as for various sorts of trouble of a chronic character. An attack of measles makes one susceptible to other infections. The deaths most closely connected with measles are usually due to infection with some form of pneumonia. Not infrequently an attack of measles serves to start an active tuberculosis.

Many persons, even children, do not get diphtheria or scarlet fever, because they are fortunate enough to be naturally immune to these diseases and cannot develop them; but probably nobody possesses a natural immunity to measles, and anybody exposed to it is almost sure to develop it unless he has already had measles. A person who has had measles once is not likely to get it again, but second or even third attacks do occur.

Most of the deaths directly attributable to measles in Boston are in children under five years of age. If, therefore, a child can be prevented from having measles until it is over five years old the chances of fatal complications are greatly reduced. Then, too, in persons of any age, the chances of serious complications can be greatly decreased by proper care of the patient from the beginning of illness.

HOW TO AVOID TYPHOID FEVER.

Typhoid fever is a communicable disease. It is caused by organisms or germs which are to be found in the discharges from the bowels or bladder of a person sick with the disease, or who has been sick with the disease. Sometimes a person who has had typhoid fever will continue to throw off these organisms from his bowels or bladder for weeks, months or even years after he has recovered from an attack of typhoid fever and is apparently in perfect health. Such persons are known as typhoid carriers. The only way to tell when a person who has had typhoid fever ceases to be dangerous to others is by having the discharges from his bowels or bladder examined in a laboratory.

To contract typhoid fever a person must in some way or other get these typhoid organisms into his mouth and swallow them. This means usually that he eats or drinks something which has been contaminated somehow with the discharges from the bowels or bladder of a person who is throwing off typhoid fever organisms in this way. Even a particle of such discharges so small as to be seen only by a microscope may contain typhoid organisms enough to give a person typhoid fever.

Antityphoid vaccination is advisable, particularly if there be typhoid fever in the house or neighborhood, or if one is contemplating a trip away from home. The family physician will arrange to do such vaccination, or, in the absence of a family physician, arrangements may be made with the Boston Health Department.

If the source of water or milk be unknown or be not known to be safe, water or milk should not be drunk unless boiled or sterilized. Uncooked garden stuff of unknown origin is to be avoided. Keep flies away from food. Wash the hands before eating. When typhoid fever is prevalent avoid raw food of any kind and so far as possible eat only freshly cooked hot food.

INFANT MORTALITY IN MASSACHUSETTS.

Infant mortality rates in Massachusetts have dropped from 102 in 1915 to 62 in 1929. The big decrease has been in *gastro intestinal* and *respiratory diseases* which involve mostly infants over one month old. The drop in *gastro intestinal* causes during this period was from 25.2 to 4.9, and in *respiratory diseases* from 17.3 to 11.1.

Congenital debility and *premature birth*, as causes of early infant death, dropped from 30.6 to 19.7. Deaths from *congenital malformation* remained at a standstill, 7.1. Deaths from *injuries* at

birth have increased from 3.5 to 4.8, which certainly gives us food for thought. (New York State figures show slightly greater increase, 3.9 to 5.5.)

Total deaths under one day increased slightly, 14 to 14.5. Total deaths under one month decreased from 42.6 to 35.4, and deaths over one month decreased from 52.8 to 31.4. These rates are per 1,000 live births.

These three — prematurity, congenital malformations and birth injuries — keep the death rates under one day stationary and those under one month are little better. If we want more live babies these are the causes for our first consideration.

— *Excerpt from "The Commonwealth," Volume 18.*

CARE OF FOOD.

Avoid exposing food or refuse where flies may be attracted to them. The presence of flies is evidence of uncleanness, disgraceful to the community and to the individuals who are responsible for the presence of flies, especially when we know that flies carry disease.

SUMMARY OF WORK, MAY, 1931.

ADMINISTRATION DIVISION.

Legal notices	152	Hearing	1
Prosecution ordered	3	Personnel:	
Vacate notice	1	Temporary appointment	1
Settlements:		Temporary appointments ex-	
Total cases	159	tended	2
Notices	115	Change of rating	1
Bills	44	Trip authorized	1
Contract approved	1		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,110	Milk licenses approved	2,173
Denatured alcohol approved	390	Lying-in hospital approved	1
Hen licenses approved	41	Dump permit approved	1
Massage-manicure approved	666	Garbage transportation ap-	
Ice cream dealers approved	860	proved	4
Ice cream manufacturers ap-		Pedlers' licenses approved	174
proved	4	Undertakers (new license)	1
Ice cream manufacturers disap-		Undertakers (renewals)	175
proved	2	Manure	8
Grease approved	1	Offensive trades	2

MEDICAL DIVISION.

Reported cases	1,987	Visits:	
Nonresidents	103	By V. D. investigator	219
Deaths investigated	53	By medical inspectors to cases	
		of communicable disease	528

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF MAY, 1931.

DIPHTHERIA:

Positive for diagnosis	12	
Positive for release	8	
Negative for diagnosis	399	
Negative for release	27	
No growth cultures	56	
	—	502

DARK FIELD, TREPONEMA PALLIDA:

Positive	2	
Negative	1	
	—	3

GONORRHEAL OPHTHALMIA:

Positive	2	
Negative	75	
	—	77

GONORRHEAL URETHRITIS:

Positive	139	
Negative	769	
	—	908

MALARIA:

Negative		4
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MISCELLANEOUS EXAMINATIONS: *

Positive	5	
Negative	21	
Unclassified	324	
	—	350

GENITO URINARY TUBERCULOSIS:

Positive	3	
Negative	15	
	—	18

TUBERCULOSIS:

Positive	49	
Negative	289	
Unsatisfactory	4	
	—	342

TYPHOID:

Positive	5	
Negative	33	
	—	38

SYPHILIS:

Positive	99	
Negative	973	
Unsatisfactory	13	
Doubtful	12	
	—	1,097

Bacteriological milk examinations 612

Bacteriological ice cream examinations 18

Total 3,969

Swimming pools examined 64

Extra waters examined 5

* Unit urines, 230; Vincent's angina, 12; blood smear-eosinophilia, 1; stool blood, 1; urine or culture, 1; swiss candy, 1; California mackerel, 1; sputum, macroscopical and microscopical, 1; cream pie, 3; water routine, 2; feces for eberthella typhi, 13; urine for eberthella typhi, 13.

MILK INSPECTION

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during May, 1931:

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association, using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.	12.20	3.85	11,000
Antetomasso, Peter.	12.41	4.08	12,000
Brandley, T. J. & P. J.	12.29	3.65	11,000
Buxton, William E.*.	14.24	5.00	11,000
Casey, James D.	12.43	3.88	26,000
Cashin, J. F., & Co.	12.38	3.99	19,000
Cedar Hill Farm, Inc.*.	12.75	4.03	300
Chapin, George L.	12.81	4.10	13,000
Clark, Levi.	12.15	3.70	21,000
Corkery, John J.	13.28	4.28	25,000
Cosgrove, Martin S.	12.37	3.88	27,000
Daley, John.	12.01	3.55	5,000
Dean, Louis W.*.	13.89	4.70	15,000
Deerfoot Farm Company.	12.81	4.08	7,000
Denehy Timothy.	12.74	3.95	14,000
Driscoll, William B., Company.	12.35	3.95	12,000
Elm Spring Farm Company.	12.63	4.00	10,000
Ferguson, Malcolm D.	12.60	3.92	37,000
Garfield, Mason*.	14.00	4.85	250
Garvin, Charles.	13.49	4.80	500
Giroux, J. E. & H. J.	12.59	3.90	14,000
Griffin, Joseph L.	12.74	3.98	13,000
Gushee, Chester W.	12.68	4.02	13,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Hampden Creamery Company.....	12.63	3.99	28,000
Hickey, J. B.....	12.33	4.05	14,000
Herlihy Brothers, Inc.....	12.47	3.87	15,000
Holden, John E.....	12.30	3.77	25,000
Hood, H. P., & Sons, Inc.....	12.39	3.81	15,000
Hutchinson, Frank T.....	12.54	4.00	10,000
Jones, William T., Company.....	12.59	4.00	20,000
Kendall Brothers.....	12.38	3.78	16,000
Kingston Brothers.....	12.48	3.85	14,000
Knapp, George J.*.....	12.36	3.84	16,000
Lang Brothers.....	12.43	3.89	20,000
Larsson, Charles*.....	12.55	3.80	26,000
Lyndonville Creamery Association.....	12.60	4.02	14,000
Manning, Harriet.....	12.48	3.90	14,000
Marlboro Dairy Company, Inc.....	12.73	4.40	27,000
McAdams, J. F., & Brothers, Inc.....	12.77	4.07	12,000
McKernan, John.....	12.46	3.88	12,000
New England Creamery Products Company*.....	12.64	4.06	13,000
Prescott, J. B., Company.....	12.72	4.13	12,000
Robinson, A. J.....	12.68	3.84	27,000
Schuster, Adam.....	12.63	3.93	18,000
Seven Oaks Dairy Company.....	12.35	3.84	15,000
Shawsheen Dairy, Inc.....	12.79	4.05	6,000
Shick, Jacob.....	12.36	3.68	18,000
Somerset Farm Creamery Company.....	12.93	4.25	10,000
Sterling Farm Milk Company.....	12.55	4.01	11,000
Stone, H. L.....	12.35	3.82	17,000
Stuart, W. E., Company.....	12.68	4.15	36,000
Tufts Brothers.....	12.38	4.00	3,000
Turner Center System, Inc.....	12.34	3.75	16,000
United Farmers Co-operative Creamery Association, Inc...	12.51	4.00	16,000
Walker-Gordon Laboratory Company*†.....	12.68	4.12	100
Weiler, E., & Sons.....	12.34	3.88	22,000
Westwood Farms Milk Company.....	12.24	3.83	11,000
White Brothers.....	12.74	3.99	12,000
Whiting Milk Companies.....	12.48	3.83	19,000
Whittemore, W. D.....	12.66	4.00	14,000
Wiswall, Granville A.....	12.58	3.86	27,000
Woodland, Charles L.*.....	12.67	4.00	13,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc. . .	12.43	3.75	13,000
The Cloverdale Company.	Herlihy Brothers, Inc.	12.46	3.92	25,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc., and Whiting Milk Companies,	12.49	3.83	33,000
First National Stores, Inc.	Bellows Falls Cooperative Creamery Association.	12.97	4.15	10,000
Morgan Brothers Company. . . .	New England Creamery Products Company and United Farmers Cooperative Creamery Association, Inc..	12.49	4.02	27,000
M. Winer Company.	M. Winer Company.	12.84	4.20	26,000

GRADE A MILK — PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.	12.78	4.33	5,000
Cashin, J. F., & Co.*.	12.68	4.55	8,000
Corkery, John J.	14.05	5.05	10,000
Cosgrove, Martin S.	13.42	4.58	22,000
Dean, Louis W.*.	13.90	4.60	10,000
Elm Spring Farm Company.	13.11	4.35	10,000
Griffin, Joseph L.	13.36	4.45	8,000
Gushee, Chester W.	12.53	4.10	6,000
Herlihy Brothers, Inc.	12.55	4.30	10,000
Hood, H. P., & Sons, Inc.*.	12.57	4.13	6,000
Jones, William T., Company.	12.98	4.25	11,000
Lyndonville Creamery Association.	13.18	4.15	6,000
McAdams, J. F., & Brothers, Inc.	12.78	4.35	8,000
New England Creamery Products Company*.	13.00	4.23	5,000
Robinson, A. J.*.	13.44	4.68	7,000
Seven Oaks Dairy Company.	12.92	4.20	7,000
Sterling Farm Milk Company.	12.66	4.15	9,000
Turner Centre System, Inc.	12.68	4.10	5,000
White Brothers*.	12.97	4.42	6,000
Whiting Milk Companies*.	12.75	4.21	7,000
Woodland, Charles L.*.	13.58	4.70	6,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.	Own *.....	13.47	4.30	900
Turner Centre System, Inc.	Alta Crest *.....	12.95	4.10	900
Walker-Gordon Laboratory Company.	Own *.....	12.69	4.12	1,800
Whiting Milk Companies.	Hampshire Hills.....	13.25	4.20	2,300

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.	Own *.....	13.82	4.45	125

* All cows tested and reported free from infectious abortion.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	444
Milk from stores	870
Milk brought by citizens	1
Vinegar	23
Miscellaneous	8

Samples referred to Bacteriological Laboratory for examination:

Milk	612
Ice cream	18
Court cases	10
Fines	\$75

DAIRY DIVISION.

Total services	2,290	Inactive	54
Dairies inspected	1,055	Total cattle inspected	15,022
Scoring above 50*	694	Inspection of milk plants and	
Scoring below	361	licensed dealers	174
With milk rooms	853	Country creamery inspections	61
Without milk rooms	202	Sediment tests	242

* Passable mark.

FOOD INSPECTION DIVISION.

MAY, 1931.

District inspections	5,153
Reinspections	408
Market inspections	1,636
Terminal inspections	877
Vehicle inspections *	4,952
Stand inspections	1,349
Complaints	36
Notices to abate	198
Condemnations	83
Pedlers' licenses certified	174
Pedlers' vehicles approved	1,034

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	2,434	Parts condemned	545
Calves inspected	3,973	Animals condemned	26
Swine inspected	3,801	Total of meat condemnations	
Sheep inspected	189	(pounds)	6,282

SANITARY DIVISION.

Original inspections	4,410	Complaints investigated	820
Causes for action found	2,519	Nuisances abated	2,578
Reinspections	8,557	Routine inspections	3,157
Legal notices served	176		

CHICKEN POX.

Chicken pox is a very contagious disease. It is contagious at the beginning of sickness and may continue to be contagious while any sores or scabs are to be seen.

It is spread by coming into close contact with the patient and also by articles which have been in contact with the patient.

This disease derives its chief importance to the public from the likelihood of mistaking cases of mild smallpox for chicken pox. This is the way smallpox epidemics usually get their start. It is frequently very difficult to tell a beginning smallpox case from a beginning chicken pox case or *vice versa*, and it is sometimes absolutely impossible to tell which disease a patient has without awaiting development for one, two, or perhaps three or more days.

TUBERCULOSIS DIVISION.

In the month of May there were eighty-four day clinic sessions and thirty-six evening clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	12	17	15	32	4	3	—	3
East Boston.....	8	14	17	31	4	—	—	—
North End.....	9	3	9	11	4	—	—	—
West End.....	9	4	3	7	4	—	—	—
South Boston.....	9	13	31	44	4	2	—	2
Boston Dispensary.....	8	16	5	21	—	—	—	—
Brighton.....	4	2	3	5	4	1	1	2
Charlestown.....	4	4	5	9	4	—	—	—
Codman square.....	9	8	10	18	4	2	—	2
Hyde Park.....	4	7	13	20	4	2	—	2
Arcadia Street.....	4	4	2	6	—	—	—	—
Roxbury.....	4	9	14	23	—	—	—	—
Totals.....	84	101	127	228	36	10	1	11

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	89	75	164	9	1	10
East Boston.....	46	122	168	14	1	15
North End.....	20	126	146	2	—	2
West End.....	29	66	95	15	2	17
South Boston.....	45	84	129	9	2	11
Boston Dispensary.....	46	11	57	—	—	—
Brighton.....	10	11	21	5	4	9
Charlestown.....	17	43	60	4	—	4
Codman square.....	70	76	146	18	—	18
Hyde Park.....	39	34	73	13	—	13
Arcadia street.....	23	22	45	—	—	—
Roxbury.....	72	105	177	—	—	—
Totals.....	506	775	1,281	89	10	99

DISTRICTS.	DAY CLINIC.			NIGHT CLINIC.		
	Von Pirquet.	Wassermann.	Lamps.	Von Pirquet.	Wassermann.	X-Ray.
South End.....	20	17	127	1	1	127
East Boston.....	44	7	—	—	—	56
North End.....	20	2	—	—	—	37
West End.....	5	5	—	—	—	19
South Boston.....	42	10	88	1	1	54
Boston Dispensary.....	13	3	—	—	—	—
Brighton.....	4	2	—	1	—	—
Charlestown.....	5	3	—	—	—	19
Codman square.....	28	8	—	—	1	—
Hyde Park.....	23	8	—	3	—	—
Arcadia street.....	5	4	—	—	—	—
Roxbury.....	20	5	—	—	—	36
Totals.....	229	74	215	6	3	348

CHILD HYGIENE DIVISION.

Report of Medical Inspection of Parochial Schools, May, 1931.

Schools visited	416
Number of children seen	1,847
Number of children excluded	63
Number of children readmitted	981
Number of children examined	421

CARE OF THE SICK ROOM.

If due care as to cleanliness of sick room has been taken during the course of the illness, disinfection after the recovery of the patient will be very much easier. In any case, after the recovery of the patient, bed covering should be spread about so as to "air" the bed; closet doors and bureau drawers should be opened, and then windows and doors leading into the open air should be thrown wide open for twenty-four hours or more. Such articles as are to be destroyed should then be removed, and the room given a thorough "housecleaning." Rugs and hangings, if any have been in the room, should be exposed to the sunshine and fresh air, and floors, woodwork and furniture should be thoroughly cleaned. If the scrubbing, sunning and airing be done with care, and if precautions against infection of the room during the illness have been followed, the room will be reasonably safe for occupancy. Additional safeguards may be taken, however, by washing up floors and woodwork with a bichloride solution 1 to 1000, and wiping off the walls with a cloth dampened with that solution. Whitewashing can then be done with advantage, and if the paper is in any way in poor condition, it had best be replaced.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING MAY, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	15	27.27
Seven days or less.....	4	7.27
Eight to fourteen days, inclusive.....	2	3.64
Fifteen to twenty-one days, inclusive.....	1	1.82
Twenty-two to thirty-one days, inclusive.....	3	5.45
WITHIN FIRST MONTH. (Total).....	25	45.45
Within second month.....	5	9.09
Within third month.....	1	1.82
Within fourth month.....	1	1.82
Within fifth month.....	1	1.82
Within sixth month.....	1	1.82
Within seventh month.....	2	3.64
Within eighth month.....	1	1.82
Within ninth month.....	1	1.82
Within tenth month.....	1	1.82
Within eleventh month.....	1	1.82
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	40	72.74
Within second year.....	4	7.27
Within third year.....	3	5.45
More than three years.....	8	14.54
Grand totals.....	55	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF MAY, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	24	24	21	27
North Reading State Sanatorium.....	2	3	5	2
Lakeville State Sanatorium.....	1	2	6	2
Rutland State Sanatorium.....	2	—	2	2
Westfield State Sanatorium.....	—	—	1	—
Tewksbury.....	—	—	—	1
Totals.....	29	29	35	34

PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	1
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	7	—	3	—
Doctor Crane's Sanatorium.....	—	—	—	1
Totals.....	7	—	3	2

ATTENDANCE AT HEALTH UNIT SOLARIA.

January 1 to May 31, 1931.

MONTHS.	CHARLESTOWN.			EAST BOSTON.			NORTH END.		
	Attendance for Month.	Attendance Each Day.	Number of Days.	Attendance for Month.	Attendance Each Day.	Number of Days.	Attendance for Month.	Attendance Each Day.	Number of Days.
January.....	483	20	24	420	16	26	591	22	26
February.....	486	21	23	378	18	21	457	21	21
March.....	557	22	25	536	20	26	523	20	26
April.....	601	24	25	470	18	25	589	23	25
May.....	529	21	25	456	18	25	625	25	25

MONTHS	ROXBURY.			SOUTH BOSTON.			WEST END.		
	Attendance for Month.	Attendance Each Day.	Number of Days.	Attendance for Month.	Attendance Each Day.	Number of Days.	Attendance for Month.	Attendance Each Day.	Number of Days.
January.....	532	21	25	365	14	26	325	13	25
February.....	468	20	23	320	14	22	341	14	23
March.....	640	25	25	537	21	25	431	16	26
April.....	565	22	25	456	19	24	366	14	25
May.....	571	22	25	440	17	25	413	16	25

ICED DRINKS.

Do not put chopped ice into water or other drinks in hot weather. Very cold drinks are often dangerous. Water and other drinks should be cooled in bottles placed in the refrigerator.

ICE ECONOMY.

Locate your refrigerator in the coldest possible place and see that its doors are tightly closed at all times. The refrigerator doors should be opened for the shortest possible time when putting in or taking out food, as ice absorbs heat from the surrounding air and objects.

Grave danger lurks in the common drinking cup and common roller towel.

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, May, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences	Average Attendance.
Old Town Hall.....	218	24	242	41	2	43	4	61
Lincoln street.....	67	13	80	13	1	14	2	40
Charlestown.....	399	105	504	32	3	35	8	63
Codman square.....	463	63	526	83	5	88	8	65
Columbia road.....	250	10	260	36	—	36	8	33
Arcadia street.....	467	18	485	45	—	45	8	60
East Boston.....	312	17	329	67	4	71	8	41
Hyde Park.....	180	32	212	26	1	27	8	27
Jamaica Plain.....	223	20	243	44	2	46	4	61
North End.....	214	130	344	57	8	65	8	43
Roslindale.....	257	32	289	35	1	36	4	72
Roxbury.....	581	35	616	80	8	88	12	51
Children's Hospital.....	133	15	148	12	1	13	4	37
Columbus avenue.....	388	55	443	63	10	73	8	55
South Boston.....	373	89	462	63	14	77	8	58
South End.....	315	21	336	50	1	51	8	42
Tyler street.....	149	22	171	14	3	17	4	43
West End.....	350	74	424	30	2	32	8	53
Totals.....	5,339	775	6,114	791	66	857	122	50

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, MAY, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	8	8	2	18	23
Lincoln street.....	1	1	—	2	12
Charlestown.....	18	18	15	51	31
Codman square.....	45	40	36	121	207
Columbia road.....	4	7	9	20	34
Arcadia street.....	13	13	10	36	33
East Boston.....	—	—	—	—	—
Hyde Park.....	15	17	20	52	18
Jamaica Plain.....	4	2	1	7	7
North End.....	12	11	15	38	107
Roslindale.....	3	5	5	13	30
Roxbury.....	17	15	37	69	216
Children's Hospital.....	7	13	10	30	14
Columbus avenue.....	6	8	6	20	30
South Boston.....	—	—	—	—	24
South End.....	8	6	5	19	33
Tyler street.....	7	5	10	22	12
West End.....	11	11	9	31	54
Totals.....	179	180	190	549	885

REPORT OF MEDICAL INSPECTORS, MAY, 1931.

Inspections	412
Physical examinations	478
Schick tests	3
Toxin antitoxin	321
Vaccinations at units	723
Vaccination certificates	201
Day nursery visits	15
Conferences	7

**PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS,
MAY, 1931.**

UNIT.	Number of Patients.	Number of Operations.
West End.....	751	1,355
North End.....	702	1,278
South End.....	630	1,416
East Boston.....	725	983
South Boston.....	1,100	1,876
Roxbury.....	937	1,131
Charlestown.....	798	1,321
	5,643	9,360

COOPERATIVE HEALTH UNIT REPORT, MAY, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physician.....	68				83		54	205
HULL STREET DISPENSARY:								
Calls by district physician.....			19					19
BOSTON LYING-IN HOSPITAL:								
Prenatal clinics.....	4	4	4	4	4	4	4	28
Attendance.....	19	74	50	17	62	34	68	324
New cases.....	10	23	11	3	26	8	17	98
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	4			4	3	3	18
Attendance.....	47	49			45	41	21	203
AMERICAN RED CROSS:								
Home nursing classes.....					6			6
Attendance.....					108			108
BOY SCOUTS OF AMERICA:								
Meetings.....	1	1		2				3
Attendance.....		100		26				126
MEDICAL SOCIETY:								
Meetings.....		1						1
Attendance.....		20						20
STATE DEPARTMENT OF MENTAL DISEASES:								
Clinics.....							4	4
Attendance.....							51	51
New cases.....							8	8
JEWISH WELFARE SOCIETY:								
Housekeepers' Club.....							2	2
Attendance.....							64	64
HEALTH DEPARTMENT:								
Refraction Service:								
Number of refractions.....			54					54
Diagnoses.....			70					70
New glasses recommended.....			19					19
New cases.....			12					12
Nose and Throat Service:								
Clinics.....	2						4	6
Attendance.....	193						228	421
Operations recommended.....							77	77
Mothers Club (HDH):								
Meetings.....			1		1			2
Attendance.....			21		11			32

NURSING SERVICE.
REPORT FOR MAY, 1931.

HOMES VISITED	15,305	
CHILD HYGIENE:		
Visits to new cases	1,063	
Visits to old cases	9,009	
	<hr/>	10,072
Included are:		
Wrong addresses	78	
Not seen *	801	
	<hr/>	
Absent visits	879	
COMMUNICABLE DISEASES:		
Visits to new cases	1,158	
Visits to old cases	2,053	
	<hr/>	3,211
Included are:		
Wrong addresses	31	
Not seen *	70	
	<hr/>	
Absent visits	101	
TUBERCULOSIS:		
Visits to new cases	209	
Visits to old cases	4,716	
	<hr/>	4,925
Included are:		
Wrong addresses	30	
Not seen *	350	
	<hr/>	
Absent visits	380	
Positive cases visited	2,188	
Contact cases visited	1,913	
Suspect cases visited	444	
	<hr/>	4,925
MISCELLANEOUS VISITS:		
Maternal death investigations	1	
Patients accompanied to hospital	10	
Visits to day nurseries	59	
Visits to parochial schools	618	
Nutrition visits	2	
Posture visits	1	
Other special visits	11	
	<hr/>	702
	<hr/>	18,910
		Hrs. Mins.
Hours in station by nurses	3,370	47
Hours at baby and pre-school conference	1,583	15
Hours at tuberculosis clinic	736	10
Hours at nurses' conference	672	10
Hours at special meetings	76	10
	<hr/>	
Total number of hours	6,438	32

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, MAY, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MAY,
1931, WITH COMPARATIVE FIGURES FOR MAY, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	913	990	—77	13.95	15.19	—1.24
Nonresidents deducted.....	734	814	—80	11.21	12.49	—1.28
BY AGE:						
Under one year.....	79	118	—39	1.21	1.81	— .61
One year to four years, inclusive.....	47	58	—11	.72	.89	— .17
Sixty years and over.....	403	429	—26	6.16	6.58	— .42
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,184	1,381	—197	18.09	21.19	—3.10
b. Registered stillbirths.....	36	30	+6	.55	.46	+ .09
Stillbirths per 1,000 live births and still- births.....	—	—	—	29.51	21.26	+8.25
c. Deaths of mothers from causes incident to childbirth.....	14	10	+4	.21	.15	+ .06
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	11.47	7.09	+4.38
d. Deaths in first year per 1,000 live births..	—	—	—	66.72	85.44	—18.72
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	51	36	+15	77.9	55.2	+22.7
Homicides.....	1	—	+1	1.5	—	+1.5
Suicides.....	9	6	+3	13.7	9.2	+4.5
Automobile accidents * (death in Boston)...	13	3	+10	19.9	4.6	+15.3
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as pri- mary).....	9	12	—3	13.7	18.4	—4.7
Broncho-pneumonia.....	64	72	—8	97.8	110.5	—12.7
Cancer.....	115	100	+15	175.7	153.4	+22.3
Cirrhosis of the liver.....	4	7	—3	6.1	10.7	—4.6
Diabetes mellitus.....	17	29	—12	26.0	44.5	—18.5
Diarrhea and enteritis (under two years)....	6	11	—5	9.2	16.9	—7.7
DEGENERATIVE DISEASES, SO CALLED:						
Arterio sclerosis.....	18	26	—8	27.5	39.9	—12.4
Cerebral hemorrhage.....	64	61	+3	97.8	93.6	+4.2
Heart disease.....	182	173	+9	278.1	265.5	+12.6
Nephritis, chronic.....	59	69	—10	90.1	105.9	—15.8

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING MAY,
1931, WITH COMPARATIVE FIGURES FOR MAY, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 1	3	-2	1.5	4.6	-3.1
	Deaths.. —	1	-1	—	1.5	-1.5
Cerebrospinal meningitis.....	Cases.. 3	15	-12	4.6	23.0	-18.4
	Deaths.. 3	3	—	4.6	4.6	—
Diphtheria.....	Cases.. 31	89	-58	47.4	136.6	-89.2
	Deaths.. 4	3	+1	6.1	4.6	+1.5
Influenza.....	Cases.. 9	3	+6	13.7	4.6	+9.1
	Deaths.. 1	3	-2	1.5	4.6	-3.1
Measles.....	Cases.. 394	2,328	-1,934	602.0	3,572.4	-2,970.4
	Deaths.. 2	14	-12	3.0	21.5	-18.5
Pneumonia (lobar).....	Cases.. 104	156	-52	158.9	239.4	-80.5
	Deaths.. 30	34	-4	45.8	52.2	-6.4
Scarlet fever.....	Cases.. 465	295	+170	710.5	452.7	+257.8
	Deaths.. 1	6	-5	1.5	9.2	-7.7
Tuberculosis (pulmonary).....	Cases.. 127	159	-32	194.1	244.0	-49.9
	Deaths.. 55	59	-4	84.0	90.5	-6.5
Tuberculosis (other forms).....	Cases.. 18	28	-10	27.5	43.0	-15.5
	Deaths.. 3	5	-2	4.6	7.7	-3.1
Typhoid fever.....	Cases.. 4	8	-4	6.1	12.3	-6.2
	Deaths.. —	1	-1	—	1.5	-1.5
Whooping cough.....	Cases.. 157	219	-62	239.9	336.1	-96.2
	Deaths.. 2	6	-4	3.0	9.2	-6.2

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

1559

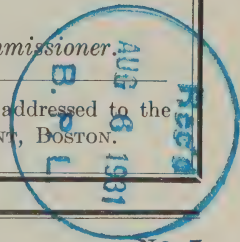
MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.



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NO. 7

HOW WE OVERCOME DISEASE.

An eminent pathologist has defined disease as "an impairment of the adaptability of the individual to his environment." Although this cautious scientist's definition of disease is essentially non-committal it implies, as a sort of corollary, that disease may be expected to make a person feel uncomfortable.

While pathological erudition thus links the idea of discomfort and disease it fails to suggest how primitive man got the idea in his head that pathological discomfort might be expected to disappear by putting something into his stomach; that failure to obtain relief in this way merely indicated that he had not hit upon the right thing or had not taken the proper amount. It may be that we ought to look to a philosopher or to a psychiatrist to tell us how the idea started rather than to a pathologist. Perhaps its origin is to be traced to the same impulse which leads a dog to eat grass. The dog and man apparently share the belief that in order to be efficacious a remedy should be disagreeable and may be expected to increase bodily discomfort before relief comes. It must have been some such process of reasoning which induced man to keep on eating horribly bitter nux vomica beans, notwithstanding the production of fatal convulsions, until the therapeutic dosage of strychnine was

established, or to keep taking sickening chalmooogra oil until its value in the treatment of leprosy could no longer be doubted.

However the idea may have started that Nature furnished remedies for disease we should feel grateful to men in past ages for the persistency and recklessness with which they have stuck to this idea and tested out poisons on themselves. In spite of their tendency to mix appeals to the supernatural with therapeutics the discoveries made in experimental medicine in remote ages were really marvellous. We accept time-honored medicaments as a matter of course. We seldom stop to recall that poisonous forms of mercury were successfully used to kill the spirochetes of syphilis long before any sort of a spirochete was even imagined. Both quinine and arsenic were similarly employed to destroy the sporocyte forms of the malarial organism in the blood ages before the human mind had any conception of such a form of parasitic life. Somehow, too, in the past, it was learned that salicylates, originally derived from willow bark, would cause an abatement of the symptoms of acute rheumatism, whereas the infectious character of this disease is a recent discovery.

In addition to the discovery of agents like those above mentioned which have, as we now know, a specific action on the causative organisms of certain diseases we are also indebted to investigators in past ages for the discovery of medicaments like digitalis, opium, cocaine or belladonna, which may be utilized to produce indirectly through their action on nerve tissue a favorable influence in pathological conditions.

Down through the ages countless substances which have been tested out have raised hopes of specific action in this disease or that and have eventually been rejected as worthless. In the past, as at present, the influence of unknown factors in bringing about recovery from disease has made the value of treatment exceedingly difficult to determine. Many a reputation for superior medical wisdom has been bolstered up by a consistent policy of skeptical disparagement of any medical innovation.

A far more important impediment to medical progress, however, has been the mixture of gullibility and prejudice which characterizes the attitude of people in matters relating to their health. It has been said that "people like to be humbugged," but this does not tell the whole story. There is something in the human mental makeup which causes a man intelligent and shrewd in the conduct of a business to lose completely his power of critical reasoning when it comes to appraising the value of medical treatment. Then, too, of course, what appears to be inability to reason may be the result of the business appeal of quackery. We have lately seen a particularly self-complacent sanctimonious journal rushing to the defence

of a well-advertised nostrum based on a time-honored horse liniment formula and which has repeatedly figured in court proceedings by reason of the claims of the proprietor that it cures tuberculosis. For a long time a decoction of sheep dung was accepted as efficacious in the treatment of measles. There was an excuse for this belief. As nearly everybody who took this treatment for measles recovered its lack of value was difficult to disprove. If those directing the policy of the journal just referred to had cared to do so, they could have learned that evidence had been produced in court showing cases of tuberculosis which were alleged to have been cured by this horse liniment treatment had actually died of tuberculosis.

The treatment of disease has never been wholly a matter of "trial and error." In the past, as today, treatment has been based upon carefully formulated pathological concepts or hypotheses. Like medicaments these, too, have changed, even as they are changing today. Some of the ancient and discarded theories have not been wholly wrong. The phenomena from which they were deduced have merely been better interpreted in the light of additional knowledge. The latest discoveries regarding the behavior of certain morbid agents in the body virtually force us back on an old humoral concept of the reaction of the body to injurious influences that was held a century ago.

Old concepts of disease and methods of treatment have been revolutionized by bacteriology, the developments of which have largely taken place during the professional careers of men still living and working.

New ideas were suggested by the discovery that bacteria, microscopic vegetative organisms, akin to those which brought about fermentative changes in sugary mixtures were capable of producing certain bodily infections.

It therefore seemed reasonable to expect that substances capable of arresting fermentation might likewise be capable of checking disease processes. This idea found a practical application not only in the use of solutions of corrosive sublimate, carbolic acid and other antiseptics in surgery but in the internal administration of "germicides," of which salol, urotropin and "aspirin" may serve as examples.

A disease process apparently offered another analogy to fermentation. After the alcohol resulting from the fermentation of a sugary mixture approaches 20 per cent it reacts on the fermentative bacteria, kills them and arrests fermentation. Somewhat similarly it appeared that when recovery from a bacterial disease occurred something was likewise produced in the body which caused the disappearance of the bacteria responsible for the symptoms of the disease.

Although it became evident that the disappearance of the toxemia of a disease was not analogous to the arrestation of fermentation, since the bacteria of a disease were not destroyed by the products of their own growth but were counteracted by something manufactured by the vital forces of the body itself, nevertheless it seemed logical to assume that it might be possible to produce artificially such a natural antidote to the poisonous products of bacterial growths, and by introducing this antidote or antitoxin into the body of a patient cause a prompt arrestation of the disease. The scheme attained its first striking success with respect to diphtheria.

The poisonous products or toxins generated by the growth of diphtheria bacilli in a laboratory culture were injected into a horse. After a while there appeared in the horse's blood a substance, an antitoxin, which when injected in sufficient amount into a patient suffering from diphtheria would cause a prompt cessation of symptoms. It has been clearly demonstrated that this result is brought about by a reaction of a chemical character between the antitoxin and the diphtheria toxin within the patient's body. The nature of this antitoxin has now become so well understood that it has been produced synthetically in a chemical laboratory although horses are still being used for its commercial production.

Individuals may succumb but Nature preserves the species, whether of plants, animals or human beings, by developing the means of successfully resisting dangerous invaders. A man is strengthened by contending with adverse influences, whether physical or moral, provided they be not overwhelming. Smallpox was conquered by inoculating human beings with cow pox, presumably a modified form of smallpox, a disease which produced no serious results whether in the cow or in man, but which served to create in man with respect to smallpox an effective means of defense.

We may develop, unknowingly, the means of successful resistance to certain diseases by exposure to their infective agents or poisonous products in modified forms or in such small amounts that no recognizable symptoms of the disease appear, in virtually the same way that the horse is stimulated to manufacture diphtheria antitoxin by injecting him with minute non-dangerous doses of diphtheria toxin. Immunity to tuberculosis, as well as to diphtheria and scarlet fever, is undoubtedly brought about in this way in crowded centers of population where these diseases are endemic.

The application of this principle in efforts to bring about artificially an immunity to disease was a most natural development of bacteriology. Not long after the demonstration of the efficacy in treatment of artificially produced diphtheria antitoxin it was

shown that a person's body could be stimulated to create an effective means of resistance or immunity to dangerous action on the part of typhoid bacilli by injecting into the person laboratory-grown typhoid bacilli which had been killed by heat.

Methods similar to those employed for the treatment and prevention of diphtheria and for the prevention of typhoid fever have proved successful for the control of some other diseases. Such success tended to favor a presumption that an acute disease might be expected to have a definite causative agent and that recovery or immunity resulted from the development or presence in a person's body of a specific antidote to the poisonous products of such an agent. An ingenious theory devised to explain the development of defensive or antigenic proteins and their reactions with invading infective agents gained plausibility because deductions from this theory led to the development of laboratory diagnostic procedures of practical usefulness. Within the last decade, however, it has been made apparent that infection and the reaction of the body thereto is a much more variable and complicated matter than was formerly inferred by reason of practical success in controlling certain acute diseases like those mentioned in the foregoing. It has become more evident that a specific antitoxin production is but one manifestation of the body's means of defence against the possibly injurious effects of foreign substances introduced into the body, whether such invaders be living organisms or viruses, or dangerous merely because of their chemical reactions.

The phenomenon of the amoeba-like activity of the white blood corpuscles, the *phagocytes*, in attacking bacterial invaders and destroying other extraneous material has long been observed. It has been believed that their efficacy depended upon a kind of digestive element which might vary in potency in different individuals, or in the same individual at different times. More recent studies have shown that besides these white blood corpuscles, other bodily cells, especially the lining cells of blood vessels, and various tissues and secretions likewise form a part of the protective mechanism of the body against hostile invasion. It is now claimed that the varying efficiency of the phagocytes is not due to an inherent quality but results from their cooperation with other cells or secretions in defensive reactions. It would appear not at all improbable that such a reaction might prove effective in preventing the development of a disease, like diphtheria, for example, in the absence of any specific antitoxin in the body.

The body's defensive mechanism doubtless becomes effective as the result of a form of chemical reaction, whether of antitoxins or other antigenic products or of the bodily cells themselves with

foreign infective agents. The establishment of immunity seems to be a matter of sensitization akin to that which may be set up by food proteins or which may be manifested by "hay fever." The phenomenon, however, takes us into a realm of chemistry as yet little known and regarding which we are awaiting better information to tell us also just why a tonic dose of strychnine to a man is fatal to a dog, or why an amount of another drug which would be fatal to a man is not dangerous to a bird, or why horses and goats do not have tuberculosis.

Recent investigations have made it evident that the effectiveness of bodily defence against disease may be influenced in ways that a few years ago would have been regarded as incredible.

One interesting discovery has been that pathogenic bacteria or other foreign or abnormal cells may be unable to survive a degree of heat which is not injurious to normal bodily cells, thus apparently justifying the presumption that the fever of an acute disease is a part of the body's method of overcoming infection. In any event, an artificially produced fever is being successfully employed to kill the spirochetes of syphilis imbedded in organs where they are not effectually reached by arsenic circulating in the blood when administered in the form of arsphenamin. The direct application of heat, or diathermy, is also proving a valuable agent in the palliative treatment of inoperable cancer by destroying the abnormal cancer cells.

Another recent development has been a clear demonstration of the fact that the effectiveness of the mechanism of the bodily defence against infection may be influenced by physiological stimuli acting through the nervous system and presumably by psychic impressions as well. The old popular belief that a local chilling of a portion of the surface of the body may be followed by an acute infective process, or a "cold," has been proved to be sound. So also sensory stimuli acting on the skin and reflexly through the nervous system may serve to bring about a concentration of bacteria destroying *polymorphonuclear leucocytes*, the phagocytes, where they are most needed and it is entirely probable that the efficiency of other bodily defenders may be similarly increased in ways that are as yet inexplicable. Not only the injection into the body of dead cultures of disease organisms, as heat killed typhoid bacilli, for example, but the injection of various foreign sera or of such presumably inert substances as lact-albumen or even distilled water may have a demonstrable influence upon the effectiveness of the bodily cells concerned in the defence against disease. Such effects have been found to be determined by the amount of the injections, and as well as by the avenue of introduction into the body.

Recent experiments also confirm the presumption that the danger from an infective organism itself may depend upon the manner of its introduction into the body; that, for example, a certain organism may be practically harmless except when introduced through the skin, or that the skin may not be susceptible to infection to an organism unless the skin elements have undergone some abnormal change with respect to their protein reactions.

One is still probably justified in believing that carrying a horse chestnut in the pocket will not prevent or cure rheumatism, but in the light of the latest scientific knowledge it would appear quite possible that certain procedures, as, for example, "silk jackets" in pneumonia, or the application of hot "stupes" or hot poultices in various conditions, once believed to be efficacious as methods of treatment but discarded in the light of our supposed scientific knowledge a decade ago may be of practical value after all by stimulating indirectly some features of the bodily defenses.

Diet has, of course, long been recognized as an important factor in determining a person's resistance to disease. We have become accustomed to hearing protection against disease formulated in terms of "vitamins." Recent studies make it possible that a vitamin may not be an elusive constituent of the food but an indication of a reaction of a chemical character.

The last ten years have also brought out many bewildering facts regarding the characteristics of the infective agents of diseases, as well as with respect to the reactions to which they may give rise in the body. Extreme differences in *virulence*, or the power of different "strains" of the same pathogenic organisms to do harm have been observed as well as marked differences in the reaction of different individuals to the same strain. In fact, strains of an organism are distinguished by differences in their reactions with animal or laboratory products or cultures rather than by any recognizable physical characteristics. Diphtheria bacilli microscopically or culturally indistinguishable from those taken from a fatal case of the disease may prove harmless to a guinea pig. The organisms responsible for the common forms of pneumonia, the pneumococci, have not only been separated into four types but further subdivided into a constantly increasing number of strains. The strains of the meningococcus, the organism responsible for epidemic cerebrospinal meningitis, are likewise being multiplied. The serum used in the treatment of this disease or any other serum prepared on the same principle of the diphtheria antitoxin cannot be expected to be efficacious in the treatment of a patient unless the particular strain of the organism responsible for the patient's illness has been used or included in the preparation of the serum. It is still unsafe to sug-

gest to an antituberculosis organization that the human, bovine and avian tubercle bacilli are not as immutable as lead and iron and gold,—but faith in bacterial stability has recently received some jolts. The long recognized variation in the power of the same species of bacteria to do harm has now been supplemented by the discovery that the kind of harm which an organism may be capable of doing may be influenced by the company which it has been keeping. It is no recent discovery that diphtheria bacilli change in appearance and character when grown with streptococci, but it is now claimed that the streptococci so grown acquire diphtheria bacilli characteristics in the reactions which they may produce. Similarly it is held that colon bacilli growing in conjunction with the organisms of dysentery acquire pathogenic characteristics of the latter which survive culturing for several generations. The viruses as well as bacteria have disclosed new and unlooked for qualities during the past ten years. Among these may be mentioned indications that viruses derive their dangerous potentialities from associated bacteria.

It used to be taught that malaria was due to a miasm given off from the ground in certain localities and that in some instances it was so toxic as to cause laborers digging in the soil to fall dead in their tracks. With the discovery of the mosquito transmission of malaria this old idea was almost forgotten. Now come some eminent scientists, who while they do not resurrect the old miasmatic genesis of malaria, do claim that gaseous distillates of certain bacteria cause animals' bodies to develop a resistant reaction to the bacteria just as might be expected if the bacteria themselves were injected into the animal. It has long been observed that animals with a local tuberculosis infection possessed a high degree of resistance to tubercle bacilli injected into other parts of the body. The theory of a specific tuberculosis resisting substance in the body by which this phenomenon has been explained may have to be revised if the claims of certain Japanese investigators are confirmed. They report that such tubercle bacilli infected animals are likewise highly resistant to such bacteria as the anthrax bacilli, streptococci, the diphtheria bacilli and to their toxins.

The uncorellated glimpses of recent studies in immunity and resistance to disease given in the foregoing do not indicate a satisfactory state of knowledge of the subject but they really mark steps of progress. There are gradually being revealed definite guiding principles which sooner or later will lead to a clear understanding of phenomena which now seem mysterious. In fact, it is not improbable that important revelations are even now merely awaiting the attention of some human mind endowed with the power of correctly interpreting data already accumulated.

In the meantime, it is well to remember that correct deductions from practical human experience are just as scientific as work done in experimental laboratories. The tendency of the present day is to look to the laboratory to solve all important problems of medical diagnosis and treatment. This is a misuse of the laboratory. In public health work as well as in treatment of the sick it would be better if we would imitate the processes of reasoning which were often followed with successful practical results before the laboratory came into existence. It is well to recall now and then that syphilis was actually cured by mercury before the days of salvarsan or the spirocheta pallida and that when a miasmatic vapor was believed to be the cause of malaria, lives were saved by the administration of quinine in accordance with clear headed reasoning from clinical experience.

LEAD POISONING FROM TOYS.

Surgeon General Cumming of the United States Public Health Service has been informed of the occurrence of occasional cases of lead poisoning in infants and children, apparently due to biting lead paint from cribs, toys, etc. The Public Health Service has previously called attention to this possible source of lead poisoning, but it is likely that more cases occur than become known. Children with perverted appetites would be particularly likely to encounter the hazard. Though lead paint has wide fields of usefulness, the painting of babies' toys and cribs is not one of them. Generally, manufacturers of these articles are seeing to it that lead paint is not used for this purpose, but warning is necessary that parents, especially in repainting cribs, should use paints which are free from lead, namely, quick-drying lacquers or enamels sold for interior use.

Although in recent years it has been found that the human body takes up lead from its surroundings much more frequently than was formerly supposed, and although there are still important industrial sources of lead poisoning which need correction, the incidence of lead poisoning does not seem to be on the increase. The recent development of quick-drying lacquers and enamels has doubtless kept down the number of cases of this disease. One of the most prolific sources yet remaining is the painter's trade, and it is believed that here the dust arising from scraping or sand-papering dry paint may be more important than brush painting. Even the hazard in removing paint may be avoided by the use of wet methods.—*From "Health News," issued by the United States Public Health Service, February 20, 1931.*

NURSE THE BABY IF POSSIBLE.

Breast milk is the best at all times, but particularly in the summer. The hot weather brings with it bowel trouble in bottle fed babies.

AVOID ILLNESS ON VACATION.

Make a careful selection of the place in which to spend your vacation. Rest, change and recreation are needed, but whether you travel by train or automobile you should be on the alert for hidden dangers which may lurk in what is taken for food or drink.

The cheapest food is that which supplies the greatest amount of nutriment at the least cost.

Safe milk is a good summer drink. *Include it in your diet.*

SUMMARY OF WORK, JUNE, 1931.

ADMINISTRATION DIVISION.

Legal notices	175	Personnel:	
Settlements:		Retirement	1
Total cases	154	Provisional appointments	2
Notices	110	Death of employees	2
Bills	44	Resignation	1
		Leave of absence	1

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	893	Milk licenses approved	1,688
Denatured alcohol approved	20	Lying-in hospital approved	2
Hen licenses approved	28	Dump permit disapproved	1
Massage-manicure approved	1,248	Garbage transportation ap- proved	2
Ice cream dealers approved	247	Pedlers' licenses approved	201
Ice cream manufacturers ap- proved	3	Undertakers (new license)	1
Ice cream dealers disapproved,	2	Manhole cleaning	1
Grease approved	3	Stable permit disapproved	1
Sherbet manufacturers ap- proved	11		

MEDICAL DIVISION.

Reported cases	1,549	Visits:	
Nonresidents	56	By V. D. investigator	479
Deaths investigated	45	By medical inspectors to cases of communicable disease	553

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF JULY, 1931.

DIPHTHERIA:

Positive for diagnosis	46	
Positive for release	20	
Negative for diagnosis	415	
Negative for release	28	
No growth cultures	48	
	<hr/>	557

GONORRHEAL OPHTHALMIA:

Positive	1	
Negative	116	
	<hr/>	117

GONORRHEAL URETHRITIS:

Positive	132	
Negative	828	
	<hr/>	960

GENITO URINARY TUBERCULOSIS:

Positive	2	
Negative	21	
	<hr/>	23

MALARIA:

Negative	2	
Unsatisfactory	1	
	<hr/>	3

MISCELLANEOUS EXAMINATION:*

Positive	9	
Negative	130	
Unclassified	185	
Unsatisfactory	2	
	<hr/>	326

TUBERCULOSIS:

Positive	49	
Negative	268	
Unsatisfactory	4	
	<hr/>	321

TYPHOID:

Positive	2	
Negative	66	
	<hr/>	68

SYPHILIS:

Positive	65	
Negative	931	
Unsatisfactory	5	
Doubtful	5	
	<hr/>	1,006

Bacteriological milk examinations 622

Bacteriological ice cream examinations 116

Total 4,119

Swimming pools examined 64

Extra waters examined 10

* Unit urines, 185; Vincent's angina, 18; virulence, 3; blood smear-eosinophilia, 1; sputum for streptococci, 1; feces for dysentery, 1; Smax pie for organisms, 1; feces for eberthella typhi, 43; urine for eberthella typhi, 72.

FOOD DIVISION.

(MILK INSPECTION)

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during June, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association, using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.....	12.48	4.00	11,000
Antetomasso, Peter.....	12.59	3.97	11,000
Brandley, T. J. & P. J.....	12.38	3.70	6,000
Buxton, William E.*.....	13.80	4.75	33,000
Casey, James D.....	12.30	3.65	1,800
Cashin, J. F., & Co.....	12.44	3.93	17,000
Cedar Hill Farm, Inc.*.....	12.68	4.02	6,000
Chapin, George L.....	12.67	4.00	22,000
Clark, Levi.....	12.28	3.80	19,000
Corkery, John J.....	12.82	4.01	26,000
Cosgrove, Martin S.....	12.38	3.85	11,000
Daley, John.....	12.35	3.83	250
Dean, Louis W.*.....	13.86	4.63	7,000
Deerfoot Farms Company.....	12.67	4.02	7,000
Denehy, Timothy.....	12.38	3.84	14,000
Driscoll, William B., Company.....	12.45	3.87	9,000
Elm Spring Farm Company.....	12.81	4.03	15,000
Ferguson, Malcolm D.....	12.55	3.88	15,000
Garfield, Mason*.....	14.55	5.40	2,000
Garvin, Charles.....	13.38	4.95	550
Giroux, J. E. & H. J.....	12.58	3.87	39,000
Griffin, Joseph L.....	13.13	4.20	11,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Gushee, Chester W.....	12.55	3.85	21,000
Hampden Creamery Company.....	12.62	3.97	25,000
Herlihy Brothers, Inc.....	12.32	3.70	21,000
Hickey, J. B.....	12.18	3.70	8,000
Holden, John E.....	12.33	3.73	12,000
Hood, H. P., & Sons, Inc.....	12.39	3.73	14,000
Hutchinson, Frank T.....	12.63	3.99	13,000
Jones, William T., Company.....	12.56	3.88	31,000
Kendall Brothers.....	12.32	3.65	19,000
Kingston Brothers.....	12.50	4.00	15,000
Knapp, George J.*.....	12.39	3.80	23,000
Lang Brothers.....	12.16	3.70	33,000
Larsson, Charles*.....	12.35	3.65	51,000
Lyndonville Creamery Association.....	12.52	3.96	29,000
Manning, Harriet.....	11.99	3.55	16,000
McAdams, J. F., & Brothers, Inc.....	12.78	4.02	10,000
McKernan, John.....	12.51	3.78	12,000
New England Creamery Products Company*.....	12.69	3.99	34,000
Prescott, J. B., & Co.....	12.77	4.05	28,000
Robinson, A. J.....	12.62	4.00	9,500
Schuster, Adam.....	12.65	3.98	52,000
Seven Oaks Dairy Company.....	12.45	3.85	6,000
Shawsheen Dairy, Inc.....	12.48	3.83	12,000
Shick, Jacob.....	12.30	3.67	12,000
Somerset Farm Creamery Company.....	12.87	4.15	13,000
Sterling Farms Milk Company.....	12.55	3.73	13,000
Stone, H. L.....	12.33	3.70	8,000
Stuart, W. E., Company.....	12.48	3.98	21,000
Tufts Brother.....	12.15	4.08	11,000
Turner Centre System, Inc.....	12.39	3.67	28,000
United Farmer's Co-operative Creamery Association, Inc...	12.54	3.95	10,000
Walker-Gordon Laboratory Company*†.....	12.21	3.80	None
Weiler, E., & Sons*.....	12.46	3.88	14,000
Westwood Farms Milk Company.....	12.34	3.79	39,000
White Brothers.....	12.61	3.88	13,000
Whiting Milk Companies.....	12.44	3.72	19,000
Whittemore, Warner D.....	12.64	3.93	34,000
Wiswall, Granville A.....	12.48	3.86	31,000
Woodland, Charles L.*.....	12.89	4.15	30,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc...	12.47	3.68	19,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.	12.47	3.78	32,000
First National Stores, Inc.	Bellows Falls Co-operative Creamery Association.	12.95	4.16	10,000
Friend Brothers, Inc.	Hood, H. P., & Sons, Inc.	12.26	3.65	21,000
Gray-United Stores, Inc.	Turner Centre System, Inc.	12.26	3.67	16,000
Morgan Brothers Company.	New England Creamery Products Company and United Farmers Co-operative Creamery Association, Inc.	12.46	3.90	25,000
H. Winer Company.	Whiting Milk Companies.	12.71	3.85	12,000
M. Winer Company.	M. Winer Company.	12.69	4.05	49,000

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farms Company.	Alta Crest*.	12.96	3.90	400
Hood, H. P., & Sons, Inc.	Own*.	13.39	4.50	1,200
Walker-Gordon Laboratory Company.	Own*.	12.44	3.95	2,500
Whiting Milk Companies.	Hampshire Hills.	13.16	4.40	1,500

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK — PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.	Own*.	13.82	4.40	100

* All cows tested and reported free from infectious abortion.

GRADE A MILK—PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	12.60	4.03	8,000
Cashin, J. F., & Co.*.....	12.96	4.60	9,000
Corkery, John J.....	13.32	4.50	12,000
Cosgrove, Martin S.....	13.19	4.35	7,000
Dean, Louis W.*.....	14.18	4.90	500
Elm Spring Farm Company.....	13.17	4.25	10,000
Griffin, Joseph L.....	13.26	4.38	8,000
Gushee, Chester W.....	12.73	4.12	19,000
Herlihy Brothers, Inc.....	12.42	4.20	6,000
Hood, H. P., & Sons, Inc.*.....	12.67	4.10	2,500
Jones, William T., Company.....	13.36	4.40	20,000
Lyndonville Creamery Association.....	12.73	3.95	13,000
McAdams, J. F., & Brothers, Inc.....	12.94	4.40	5,000
New England Creamery Products Company*.....	13.02	4.27	6,000
Robinson, A. J.*.....	12.94	4.13	9,500
Seven Oaks Dairy Company.....	12.83	4.10	1,800
Shawsheen Dairy, Inc.....	13.16	4.10	4,000
Sterling Farm Milk Company.....	12.99	4.20	9,000
Turner Centre System, Inc.....	12.53	4.10	2,500
White Btothers*.....	13.07	4.50	4,000
Whiting Milk Companies*.....	12.60	4.10	8,000
Woodland, Charles L.*.....	13.30	4.08	20,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	403
Milk from stores	752
Milk brought by citizens	5
Vinegar	24
Miscellaneous	12

Samples referred to Bacteriological Laboratory for examination:

Milk	622
Ice cream	116
Court case	1
Fines	\$10

DAIRY DIVISION.

Total services	1,609	Inactive	90
Dairies inspected	825	Total cattle inspected	12,325
Scoring above 50 *	572	Inspection of milk plants and	
Scoring below	253	licensed dealers	266
With milk rooms	723	Country creamery inspections	9
Without milk rooms	102	Sediment tests	194

* Passable mark.

FOOD INSPECTION DIVISION.

JUNE, 1931.

District inspections	3,513
Reinspections	358
Market inspections	1,293
Terminal inspections	636
Vehicle inspections *	4,850
Stand inspections	1,155
Complaints	51
Notices to abate	124
Condemnations	134
Pedlers' licenses certified	201
Pedlers' vehicles approved	1,164

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	2,502	Parts condemned	565
Calves inspected	3,384	Animals condemned	8
Swine inspected	3,706	Total of meat condemnations	
Sheep inspected	331	(pounds)	6,409

SANITARY DIVISION.

Original inspections	3,194	Complaints investigated	846
Causes for action found	1,917	Nuisances abated	1,932
Reinspections	7,017	Routine inspections	2,328
Legal notices served	54		

CARE OF INFANTS IN HOT WEATHER.

More attention must be given to care of infants in hot weather since at this time avoidable deaths occur. Diarrheal diseases, convulsions, and other disorders peculiar to the hot weather are the leading causes of deaths of infants during the summer months.

Perishable foods become dangerous because of lack of proper care and the harmful effects of heat. This is particularly true of milk.

TUBERCULOSIS DIVISION.

In the month of June there were eighty-three day clinic sessions and forty evening clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	12	80	117	197	5	10	1	11
East Boston.....	9	61	124	185	5	9	4	13
North End.....	9	18	113	131	3	3	—	3
West End.....	7	28	51	79	5	9	—	9
South Boston.....	9	61	91	152	3	1	—	1
Boston Dispensary.....	8	52	20	72	—	—	—	—
Brighton.....	5	10	7	17	5	5	1	6
Charlestown.....	4	28	53	81	5	3	1	4
Codman square.....	9	70	61	131	5	13	1	14
Hyde Park.....	3	22	21	43	4	12	1	13
Arcadia street.....	3	15	16	31	—	—	—	—
Roxbury.....	5	69	91	160	—	—	—	—
Totals.....	83	514	765	1,279	40	65	9	74

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	17	23	40	—	—	—
East Boston.....	7	11	18	—	—	—
North End.....	4	8	12	—	—	—
West End.....	1	3	4	2	—	2
South Boston.....	8	14	22	—	—	—
Boston Dispensary.....	14	8	22	—	—	—
Brighton.....	2	1	3	1	1	2
Charlestown.....	5	5	10	1	—	1
Codman square.....	12	9	21	1	—	1
Hyde Park.....	2	6	8	1	—	1
Arcadia street.....	2	3	5	—	—	—
Roxbury.....	13	9	22	—	—	—
Totals.....	87	100	187	6	1	7

DISTRICTS.	DAY CLINIC.				NIGHT CLINIC.				
	VON PIRQUET.		Wasser- mann.	Lamp.	VON PIRQUET.		Wasser- mann.	Lamp.	X-Ray Report.
	V. P.	V. P. Tests.			V. P.	V. P. Tests.			
South End.....	37	30	15	108	—	—	—	—	99
East Boston.....	20	24	6	—	13	5	2	—	45
North End.....	13	12	2	—	—	—	—	—	18
West End.....	10	8	1	—	1	—	1	—	19
South Boston.....	23	17	9	25	—	—	—	—	106
Boston Dispensary...	14	3	6	—	*	*	*	—	—
Brighton.....	2	3	1	—	1	—	1	—	—
Charlestown.....	10	8	3	—	—	1	1	—	22
Codman square.....	16	26	9	—	5	3	—	—	—
Hyde Park.....	7	8	3	—	—	1	2	—	—
Arcadia street.....	6	1	2	—	*	*	*	—	—
Roxbury.....	14	10	15	—	*	*	*	—	46
Totals.....	172	150	72	133	20	10	7	—	355

* No night clinic.

ATTENDANCE AT HEALTH UNIT SOLARIA.

January 1 to June 30, 1931.

	Attendance for Month.	Attendance each Day.	Number of Days.
Charlestown.....	469	20	23
East Boston.....	452	19	23
North End.....	526	23	23
Roxbury.....	477	20	23
South Boston.....	376	16	23
West End.....	344	14	23
Totals.....	2,644	112	138

CHILD HYGIENE DIVISION.

Report of Medical Inspection of Parochial Schools, June, 1931.

Schools visited	265
Number of children seen	911
Number of children excluded	43
Number of children readmitted	433
Number of children examined	59

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING JUNE, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	9	26.47
Seven days or less.....	3	8.82
Eight to fourteen days, inclusive.....	—	—
Fifteen to twenty-one days, inclusive.....	—	—
Twenty-two to thirty-one days, inclusive.....	—	—
WITHIN FIRST MONTH. (Total).....	12	35.29
Within second month.....	2	5.88
Within third month.....	2	5.88
Within fourth month.....	3	8.82
Within fifth month.....	1	2.94
Within sixth month.....	1	2.94
Within seventh month.....	1	2.94
Within eighth month.....	—	—
Within ninth month.....	—	—
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	22	64.69
Within second year.....	4	11.77
Within third year.....	—	—
More than three years.....	8	23.54
Grand totals.....	34	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF JUNE, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	22	17	20	16
North Reading State Sanatorium.....	3	1	4	1
Lakeville State Sanatorium.....	2	—	1	2
Rutland State Sanatorium.....	1	1	4	—
Westfield State Sanatorium.....	—	1	—	2
Tewksbury.....	1	—	—	1
Totals.....	29	20	29	22

PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	1
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	1
United States Veterans' Hospital.....	19	—	23	—
Doctor Crane's Sanatorium.....	—	—	—	—
Rutland Prison Camp.....	—	—	5	—
Totals.....	19	—	28	2

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, June, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	166	18	184	27	6	33	3	61
Lincoln street.....	85	17	102	15	1	16	4	26
Charlestown.....	437	95	532	33	3	36	8	67
Codman square.....	488	51	539	79	3	82	8	67
Columbia road.....	236	9	245	29	1	30	8	31
Arcadia street.....	512	29	541	44	—	44	9	60
East Boston.....	420	40	460	90	2	92	9	51
Hyde Park.....	211	41	252	22	—	22	9	28
Jamaica Plain.....	185	22	207	38	2	40	3	69
North End.....	217	88	305	25	3	28	9	34
Roslindale.....	344	41	385	47	2	49	5	77
Roxbury.....	641	61	702	97	14	111	12	59
Children's Hospital.....	137	7	144	15	—	15	5	29
Columbus avenue.....	382	52	434	64	2	66	9	48
South Boston.....	348	92	440	68	10	78	9	49
South End.....	309	19	328	46	2	48	9	36
Tyler street.....	141	26	167	15	—	15	5	33
West End.....	417	80	497	41	1	42	9	55
Totals.....	5,676	788	6,464	795	52	847	132	46

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, JUNE, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	7	6	3	16	22
Lincoln street.....	—	1	2	3	7
Charlestown.....	11	11	7	29	29
Codman square.....	37	38	43	118	92
Columbia road.....	7	4	4	15	61
Arcadia street.....	13	16	19	48	46
East Boston.....	—	—	—	—	—
Hyde Park.....	12	16	19	47	32
Jamaica Plain.....	4	2	3	10	9
North End.....	12	6	9	27	25
Roslindale.....	6	7	4	17	60
Roxbury.....	15	16	14	45	80
Children's Hospital.....	1	3	4	8	12
Columbus avenue.....	4	9	5	18	50
South Boston.....	1	1	—	2	20
South End.....	15	14	6	35	14
Tyler street.....	1	1	2	4	12
West End.....	—	—	—	—	—
Totals.....	147	151	144	442	571

REPORT OF MEDICAL INSPECTORS, JUNE, 1931.

Inspections	401
Physical examinations	791
Schick tests	2
Toxin-antitoxin	378
Vaccinations at units	350
Vaccination certificates	284
Day nursery visits	14

**PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS,
JUNE, 1931.**

UNIT.	Number of Patients.	Number of Operations.
West End.....	707	1,282
North End.....	401	826
South End.....	566	1,241
East Boston.....	432	669
South Boston.....	752	1,302
Roxbury.....	638	843
Charlestown.....	461	782
	3,957	6,945

COOPERATIVE HEALTH UNIT REPORT, JUNE, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physician.....	40				60		48	148
HULL STREET DISPENSARY:								
Calls by district physician.....			21					21
BOSTON LYING-IN HOSPITAL:								
Prenatal clinics.....	4	5	5	5	4	4	4	31
Attendance.....	35	99	74	36	76	25	77	422
New cases.....	8	20	16	9	15	5	13	86
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	5			4		1	14
Attendance.....	28	49			69		20	166
CHILDREN'S HOSPITAL:								
Infantile clinics.....	3	4				4		11
Attendance.....	19	20				12		51
New cases.....								
AMERICAN RED CROSS:								
Home nursing classes.....					3			3
Attendance.....					48			48
BOY SCOUTS OF AMERICA:								
Meetings.....			1					1
Attendance.....				5				5
STATE DEPARTMENT OF MENTAL DISEASES:								
Habit forming clinics.....							3	3
Attendance.....							26	26
New cases.....							1	1
JEWISH WELFARE CENTRE:								
Housekeepers' Club (meetings).....							1	1
Attendance.....							8	8
HEALTH DEPARTMENT:								
Refraction Service:								
Number of diagnoses.....			71					71
Glasses recommended.....			20					20
New cases.....			16					16
Nose and Throat Service:								
Clinics.....			3				3	6
Attendance.....			350				239	589
Operations recommended.....			114				59	167
Mothers Club (HDD):								
Meetings.....	1	1	1	1				4
Attendance.....	10	13	22	12				57

NURSING SERVICE.
REPORT FOR JUNE, 1931.

HOMES VISITED	15,373	
CHILD HYGIENE:		
Visits to new cases	1,113	
Visits to old cases	9,548	
	<u>10,661</u>	
Included are:		
Wrong addresses	94	
Not seen *	859	
	<u>953</u>	
Absent visits		
COMMUNICABLE DISEASES:		
Visits to new cases	938	
Visits to old cases	1,792	
	<u>2,730</u>	
Included are:		
Wrong addresses	48	
Not seen *	99	
	<u>147</u>	
Absent visits		
TUBERCULOSIS:		
Visits to new cases	196	
Visits to old cases	5,594	
	<u>5,790</u>	
Included are:		
Wrong addresses	42	
Not seen *	437	
	<u>479</u>	
Absent visits		
Positive cases visited	2,544	
Contact cases visited	2,194	
Suspect cases visited	573	
	<u>5,790</u>	
MISCELLANEOUS VISITS:		
Infant death investigations	1	
Patients accompanied to hospital	6	
Visits to day nurseries	11	
Visits to parochial schools	301	
Nutrition visits	1	
Posture visits	1	
	<u>321</u>	
		<u>19,502</u>
	Hrs.	Mins.
Hours in station by nurses	3,575	30
Hours at baby and pre-school conference	1,679	20
Hours at tuberculosis clinic	596	45
Hours at nurses' conference	431	35
Hours at mothers' classes	7	30
Hours at special meetings	11	40
	<u>6,301</u>	<u>00</u>
Total number of hours		

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, JUNE, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JUNE,
1931, WITH COMPARATIVE FIGURES FOR JUNE, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	754	806	—52	11.52	12.37	— .85
Nonresidents deducted.....	598	645	—47	9.14	9.90	— .76
By Age:						
Under one year.....	74	81	—7	1.13	1.24	— .11
One year to four years, inclusive.....	24	46	—22	.37	.70	— .33
Sixty years and over.....	317	335	—18	4.84	5.14	— .30
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,106	1,281	—175	16.90	19.66	—2.76
b. Registered stillbirths.....	32	40	—8	.49	.61	— .12
Stillbirths per 1,000 live births and still- births.....	—	—	—	28.12	30.28	—2.16
c. Deaths of mothers from causes incident to childbirth.....	10	12	—2	.15	.18	— .03
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	8.79	9.08	— .29
d. Deaths in first year per 1,000 live births..	74	81	—7	66.91	62.33	+3.68
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	41	44	—3	62.6	67.5	— .49
Homicides.....	1	1	—	1.5	1.5	—
Suicides.....	8	10	—2	12.2	15.3	—3.1
Automobile accidents * (death in Boston)...	7	11	—4	10.7	16.9	—6.2
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as pri- mary).....	10	13	—3	15.3	19.9	—4.6
Broncho-pneumonia.....	34	32	+2	51.9	49.1	+2.8
Cancer.....	95	104	—9	145.2	159.6	—14.4
Cirrhosis of the liver.....	3	7	—4	4.6	10.7	—6.1
Diabetes mellitus.....	19	17	+2	29.0	26.1	+2.9
Diarrhea and enteritis (under two years)....	5	6	—1	7.6	9.2	—1.6
DEGENERATIVE DISEASES, SO CALLED:						
Arterio sclerosis.....	16	31	—15	24.4	47.6	—23.2
Cerebral hemorrhage.....	36	51	—15	55.0	78.3	—23.2
Heart disease.....	150	127	+23	229.2	194.9	+34.3
Nephritis, chronic.....	53	49	+4	81.0	75.2	+5.8

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JUNE,
1931, WITH COMPARATIVE FIGURES FOR JUNE, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 5	—	+5	7.6	—	+7.6
	Deaths. 2	—	+2	3.0	—	+3.0
Cerebrospinal meningitis.....	Cases.. 1	5	-4	1.5	7.7	-6.2
	Deaths. 1	5	-4	1.5	7.7	-6.2
Diphtheria.....	Cases.. 60	74	-14	91.7	113.5	-21.8
	Deaths. —	—	—	—	—	—
Influenza.....	Cases.. 3	1	+2	4.6	1.5	+3.1
	Deaths. —	1	-1	—	1.5	-1.5
Measles.....	Cases.. 203	1,524	-1,321	310.2	2,338.6	-2,028.4
	Deaths. —	8	-8	—	12.3	-12.3
Pneumonia (lobar).....	Cases.. 48	96	-48	73.3	147.3	-74.0
	Deaths. 17	29	-12	26.0	44.5	-18.5
Scarlet fever.....	Cases.. 255	171	+84	389.6	262.4	+127.2
	Deaths. 4	2	+2	6.1	3.1	+3.0
Tuberculosis (pulmonary).....	Cases.. 147	149	-2	224.6	228.6	-4.0
	Deaths. 34	44	-10	51.9	67.5	-15.6
Tuberculosis (other forms).....	Cases.. 37	39	-2	56.5	59.8	-3.3
	Deaths. 9	8	+1	13.7	12.3	+1.4
Typhoid fever.....	Cases.. 2	4	-2	3.0	6.1	-3.1
	Deaths. 1	1	—	1.5	1.5	—
Whooping cough.....	Cases.. 112	204	-92	171.1	313.0	-141.9
	Deaths. —	4	-4	—	6.1	-6.1

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

155-9

MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

VOL. 20.

BOSTON, AUGUST, 1931.

No. 8

CEREBROSPINAL MENINGITIS.

Early in the present century cerebrospinal meningitis prevailed extensively in this country. There appeared to be a spread of the disease over the world, from East to West. Following this experience, epidemic cerebrospinal meningitis tended to become less important from a public health point of view, although sporadic cases were frequent in most of our cities. During the last four or five years the disease has become more prevalent and serious local epidemics have occurred and have emphasized the importance of the disease to public health officials.

Recent experience with epidemic cerebrospinal meningitis has necessitated a revision of some of our former ideas regarding the disease. Perhaps the most disconcerting discovery is that of a wide variety of strains of the meningococcus differing not only in ability to infect but in their possibilities of being utilized to produce effective curative or immunizing agents. It would seem as though beneficial results from the administration of a serum in the treatment of a case is not to be expected unless the actual strain involved in the case has been used in the preparation of the serum.

This may mean that a regular commercial serum may prove ineffective because of its failure to include the strain of meningococcus responsible for the particular case under treatment.

A Greek government official, Doctor Manoussakis, believes that he has stopped epidemics in military barracks by using a vaccine prepared by killing by heat the cultures grown from fluid drawn from the spinal canal of an early case occurring in the barracks. If this is so it suggests a procedure of practical value in dealing with community epidemics.

Recent experience confirms former observations that when epidemics occur the number of meningococcus carriers in the general population is large. Carriers as well as the sick are evidently responsible for the development of actual cases of the disease. When a case occurs all the other members of the household may be found to be carriers yet more than one case of cerebrospinal meningitis in a family is exceptional. We do not know what the factors may be which determine susceptibility. In some epidemics males have appeared to be more susceptible than females.

It is very doubtful if any progress has been made since the time of the World War in clearing up carriers by local treatment. Epidemic cerebrospinal meningitis is essentially a seasonal disease and carriers disappear rapidly from the population with the advent of warm, sunny weather.

Usually the onset of cerebrospinal meningitis is sudden, beginning with a headache and vomiting. There is usually also a chill. These are, of course, symptoms of most acute infections and diagnosis must depend upon recognition of signs of involvement of the nervous systems. The first of such symptoms are likely to be stiffness of the neck, and exaggerated reflexes appearing within twenty-four hours of the onset. It is a matter of utmost practical importance to administer therapeutic serum as early as possible and as indicated in the foregoing special effort should be made to obtain a serum which presumably includes the strain of the meningococcus responsible for the disease in the patient.

AN ENCOURAGING OUTLOOK.

From present indications, that is, a survey at the end of the first six calendar months of the year 1931, Boston will probably have the lowest infant mortality rate ever recorded for the city.

The general death rate will compare favorably with other years. Deaths from diphtheria, among the actual residents of Boston, will probably show the lowest death rate ever recorded.

Deaths due to pulmonary tuberculosis continue to show a small decrease.

Deaths of children under fifteen years of age will probably show the smallest death rate on record.

FOOD EDUCATION.

In more recent years food has taken on another aspect of which local health departments have been forced to take cognizance. Like so much of our more recent work this calls for effort in the way of public education, rather than the employment of police powers. It has been demonstrated that the public health will suffer not only from an insufficient quantity of food, but from the failure of peoples' food to supply certain elements which are necessary to proper nutrition. These elusive elements are commonly referred to as vitamins. There can be no question as to the importance of this matter to public health. Neither can there be any doubt that we have learned practically how to prevent some serious diseases by a selected variety of food stuffs. But to state the situation bluntly, we do not yet know as much about this matter as some of those who talk about it think they know. Some of us who have had to live on a highly scientific hospital "house diet" with exactly the technically right amount of calories and the vitamin content properly balanced know that this sort of a menu leaves something to be desired. Here again in this matter of dietary education it behoves health officials who must bear the responsibility for their acts to proceed cautiously.

PREVENTIVE PROGRAM FOR SCHOOL CHILDREN.

The following letter has been received from the Acting Director of the Department of School Hygiene:

THE SCHOOL COMMITTEE OF THE CITY OF BOSTON.
ADMINISTRATION BUILDING, 15 BEACON STREET.
DEPARTMENT OF SCHOOL HYGIENE.

June, 1931.

DEAR DOCTOR,—The Department of School Hygiene of the Boston Public Schools, in cooperation with the Health Department of the City of Boston and the Department of Public Health of the Commonwealth of Massachusetts, desires to enlist your active interest in its preventive program for children who are to enter the kindergarten and first grade classes for the first time next September. You are urged to communicate with your patients and request them to bring to you their children who belong to this group for physical examination and the correction of remediable physical defects, in order that they may fully enjoy the educational opportunities afforded in our schools.

All children who have defective tonsils, defective nasal breathing, carious teeth, defective vision and hearing, cardiac and respiratory diseases, malnutrition, anemia, flat feet, abnormal posture

and such other correctable physical defects as are likely to impair their health or interrupt their studies through unnecessary absences from school and thus interfere with their scholastic progress, should have correctional attention at the hands of the family physician or dentist *before* they enter school.

Your attention is directed to your opportunities in this almost untouched field of medical activity. You are in a position to become a positive factor personally, or, in cooperation with the public health agencies, to render a type of constructive medical service to a group of children who are commonly referred to as the "neglected age group."

If, in the interest of all concerned, you believe that these children should be treated at a clinic, the health units, hospitals, and dispensaries in our city are fully equipped and are willing to render this service to your patients.

The Massachusetts Department of Public Health has prepared a card, a copy of which is inclosed, indorsing this program and urging parents to have their children examined and their physical defects corrected by the family doctors. The Commissioner of Health of the Commonwealth states "these cards may be used by the private physician in order that any possible onus of personal benefit to the physician through recommending this service himself may be mitigated." Additional cards may be obtained upon application to the office of the Department of School Hygiene — Telephone, Haymarket 5500.

Your full cooperation is urgently requested.

Very truly yours,

SOLOMON H. RUBIN, M. D.,
Acting Director of School Hygiene.

Approved.

JEREMIAH E. BURKE,
Superintendent of Public Schools.

THE SCHOOL COMMITTEE OF THE CITY OF BOSTON.
ADMINISTRATION BUILDING, 15 BEACON STREET.
DEPARTMENT OF SCHOOL HYGIENE.

June, 1931.

To Parents and Guardians.

The Department of School Hygiene of the Boston Public Schools advises you that your children who are old enough to enter the kindergarten or first grade classes for the first time next September should be examined by your family doctor for conditions which are likely to interfere with their progress in school. If your

doctor discovers any defects which can be relieved by proper treatment it will help your children if such defects are corrected *before* they come to school instead of postponing action until they become ill from these defects.

If your children have defective tonsils and adenoids; if they cannot breathe properly; if their teeth are in need of dental care; if they are far-sighted or near-sighted; if they have abnormal posture or flat feet; if they are hard of hearing; if they are undernourished or are nervous; if they are troubled with any defects, these conditions should be treated by your family physician *at once* and before the defects or conditions will interfere with their school activities.

Every child *must* be vaccinated against smallpox before he is permitted to enter school. Every child should be protected against diphtheria *before* he comes to school.

Your family doctor will attend to these matters at your request. You are urged to consult him, now. *Save* your children from illness and from unnecessary loss of school time.

Play fair with your children. Help them to succeed by preparing them to do their best at school. They can do their best only if they are healthy, happy and free from preventable and correctable handicaps. Consult your family doctor at once; or if you have no family doctor take your children to the nearest hospital, dispensary, health unit, or other child health clinic maintained by the Boston Health Department in your district.

Very truly yours,

SOLOMON H. RUBIN, M. D.,
Acting Director of School Hygiene.

Approved.

JEREMIAH E. BURKE,
Superintendent of Public Schools.

INFANT MORTALITY — ITS RELATION TO PASTEURIZATION OF MILK.

The immediate fall in infant mortality which follows the pasteurization of a community's milk supply has been most striking. It is interesting to watch the infant mortality of a community decrease as the proportion of pasteurized milk consumed by the community increases. Some other factors may have been operative in bringing about the reduction in infant mortality which has been witnessed in Massachusetts cities during the past twenty-five years, but, if so, they are obscured by the part which pasteurized milk has unquestionably played in the matter.

PROMPT REPORTING OF COMMUNICABLE DISEASES.

At this season of the year, coincident with the reopening of school, the advent of cooler weather and the return of people from summer vacations there is always an increase in the prevalence of communicable diseases.

The rapidity and extent of this early autumnal increase seems to be an important factor in determining the prevalence of communicable diseases during the remainder of the year.

Success in the prevention of the spread of communicable diseases depends upon the prompt and effective isolation of those who may be dangerous to others, and, to a great extent, must mean the isolation of cases of illness before a positive diagnosis can be made. In this matter the general public must rely on the practicing physician, for such assistance as the Health Department can bring to bear for the protection of public health is ordinarily available only when dangerous, or possibly dangerous individuals, are brought to its attention by physicians. A special effort should be made by physicians to report promptly all cases of communicable diseases which come to their attention and which are reportable under the law.

BACTERIOPHAGE.

A little over fifteen years ago Twort¹ noted that in certain bacterial cultures he could demonstrate an agent, which was capable of producing dissolution of the bacteria, could be transferred from culture to culture and increased in cultures following such transfers. He wisely failed to speculate concerning the nature, origin and mode of action of this transmissible lytic agent, but did express the opinion that disintegration of the bacteria and subsequent regeneration of the agent were directly concerned with the process. Two years later d'Herelle², working independently, observed the same lytic phenomena, but he ascribed the results to the action of a living ultramicroscopic virus — *Bacteriophagum intestinale* — which produced an infectious disease in the bacteria, resulting in swelling and, eventually, dissolution. On the basis of this and subsequent observations d'Herelle³ has built up an ingenious theory relative to the importance of this agent — the so-called "bacteriophage" — in human infectious diseases, and, within recent years, a great number of papers by other investigators have appeared in medical literature. Many of the latter, it is true, disagree with d'Herelle's interpretations and conclusions, but all agree that these lytic agents can be found for many of the common bacteria which are responsible for human disease and that the possibility of the therapeutic use of bacteriophage is not unreasonable.

Bacteriophage is recovered most commonly in nature from the intestinal tracts of animals and from polluted soil and water. In suitable cultures it increases rapidly in amount and produces lysis which may go on to sterilization. It can be passed through the finest porcelain filters — hence, is sub-microscopic — and its action is markedly impaired by heating above 60 degrees C. or by repeated heating and thawing. A bacteriophage effective against one species of bacteria has little or no lytic power for other bacteria. Different strains of the same bacterial species vary in their susceptibility, and resistant sub-cultures may be obtained from a relatively susceptible strain. More recent experiments⁴ seem to indicate that this lytic agent, rather than being a living virus, is a product of bacterial metabolism, but absolute proof is lacking since experiments designed to produce bacteriophage directly from bacteria have not been convincing.

Bacteriophage has been used in the treatment of dysentery and staphylococcus infections and the results, though poorly controlled, have been encouraging. The chief obstacle, apparently, is the difficulty of establishing and maintaining in the human body an effective concentration of the agent and the hope for its use in the prevention and treatment of infection would seem to center upon some means of removing the inhibiting substance and permitting the agent to act as freely in its natural environment as it does in the test tube.— *New England Journal of Medicine*, July 23, 1931.

¹ Twort, F. W.: *Lancet*, 1915, ii, 1241.

² d'Herelle, F.: *Compt. rend. Acad. de Sc.*, 1917, clxv, 373.

³ d'Herelle, F.: *Immunity in Natural Infectious Disease*. Williams and Wilkins, 1924. *The Bacteriophage and Its Behavior*. Williams and Wilkins, 1926.

⁴ Bronfenbrenner, J.: *The Newer Knowledge of Bacteriology and Immunology*. Chap. xl, *The Bacteriophage*. University of Chicago Press, 1928.

SIX-YEAR MOLARS.

The first permanent tooth to make its appearance in the mouth, according to a recent statement by the United States Public Health Service, is the six-year molar. This tooth comes through the gums just back of the last temporary tooth, one on each side of the jaw, above and below. It usually make its appearance at about the sixth year and as it displaces no temporary tooth it is often mistaken for a temporary tooth and many times allowed to decay because of the belief that it will soon be removed anyway.

This permanent tooth was partly formed even before the child was born. Every single factor which had any influence on the health or nutrition of this child during the first four or five years of his life is reflected in the development of this tooth. The

diet of the mother before the child was born — her diet during the nursing period, the child's health and ability to assimilate his food during early childhood, all have an important bearing on the quality and formation of this tooth. Teeth are made of lime, phosphorus and magnesium, as are the bones of the child and if these were not supplied in proper quantity it will be reflected in the development of the child as well as in his temporary and permanent teeth. The child's diet and his ability to properly assimilate food will determine to a very great extent whether the enamel which should entirely cover the tooth will be hard and properly formed or of a soft character, more easily broken, and subject to decay.

Any sickness of childhood during these early years before this permanent tooth has erupted is usually the cause of some imperfection in the enamel. Measles, scarlet fever, diphtheria, smallpox, chicken pox, in fact, nearly any of the so-called children's diseases, leave their imprint upon this six-year molar and many times disfigure it to such an extent that it is extremely difficult to keep it free from decay. If the mouth and teeth, the throat and nasal cavities are kept in a healthy condition many of these so-called children's diseases may be escaped. Nearly all contagious diseases find their entrance into the body through the nose and mouth, but if these are kept clean and healthy the disease organisms will not find lodgment.

—*Excerpt, United States Public Health Service, May 23, 1931.*

SOME GOOD RULES TO REMEMBER.

Eat plenty of fresh vegetables, including green ones.

Eat fresh fruit or fruit juice daily.

Eat at least some whole wheat bread.

Drink milk every day to supplement, not to replace, other food and with due regard for the capacity of the human stomach.

Eat simple desserts. Avoid rich pastry. Use sugar moderately.

Drink water liberally, between meals. Increase the amount in warm weather.

Radiate happiness. Good cheer is contagious.

FOOD NECESSITIES FOR BODILY FUNCTIONS.

To be adequately nourished and healthy, the body requires from its foods that it be furnished energy for activity; protein for building and repairing; minerals for building and regulating; vitamins for health and growth; roughage for regulation.

CANCER.

Cancer is on the increase in Massachusetts, and probably is throughout the world. The crude death rate increased in Massachusetts between 1910 and 1929 from 90.0 to 129.5 per 100,000 population. The actual number of deaths per year increased from 3,028 to 5,671 in Massachusetts.

Massachusetts has the highest cancer death rate of any state in the Union. It is closely followed by Rhode Island and New York.

The high cancer death rate in Massachusetts is probably due in a small extent to diagnosis and in a much larger extent to the high percentage of foreign extraction groups in the state. Deaths in New England are better certified than in the southern states and doubtless a greater percentage of cancer is found. About two-thirds of the population of Massachusetts is either foreign-born or the children of foreign-born and both of these groups have cancer death rates greatly exceeding those of native-born of native parents.

The Massachusetts cancer clinics give an opportunity for individuals to receive expert diagnostic advice. Clinics are composed of a group of physicians who are all thinking in terms of cancer. Any individual may receive an opinion from this group regardless of his financial standing.

— *Excerpt from Massachusetts Department of Health, Circular No. 9591.*

PROPER CARE OF FOOD.

Foodstuffs should be cared for in a proper manner as regards cleanliness in handling and proper refrigeration so that there will be no contamination. The great majority of complaints of food poisoning upon investigation have been found to arise from lack of proper care of the food on the part of the domestic purchaser and consumer.

WASH ALL FRUITS AND VEGETABLES.

It is good sanitary practice to wash all fruits and vegetables at all times. Gardens and orchards are frequently sprayed with a compound containing harmful ingredients and the use of fruit or vegetables without first washing is dangerous.

KEEP AFTER THE FLY.

The fly is an enemy of mankind. Join in the fight to destroy him. Premises that are clean and screened and where food and waste are kept covered will help greatly in ridding our communities of these carriers of disease and filth.

THE HEALTHY INFANT.

A normal baby should show:

Gain in weight.

A good appetite with absence of vomiting and regurgitation.

Movements of the bowels normal as to number, color and consistency.

Alertness and wide-open eyes.

Unbroken sleep.

Absence of discomfort or pain.

Indications of increasing intelligence.

The rate of development is not the same with all children and variations in this respect need cause no alarm unless pronounced.

Conserve your strength and energy. Do not work too long or too hard. Rest and recreation are needed to properly conduct the human system.

SUMMARY OF WORK, JULY, 1931.

ADMINISTRATION DIVISION.

Legal notices	150	Personnel:	
Forcible removal	1	Temporary appointments . . .	3
Prosecution	1	Death of employee	1
Hearing	1	Return to duty	2
Budget transfer	1	Leaves of absence	2
Settlements:		Permanent appointment . . .	1
Total cases	174		
Notices	110		
Bills	64		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	921	Beverages	37
Denatured alcohol approved . . .	10	Milk licenses approved	288
Hen licenses approved	34	Lying-in hospital approved . .	1
Massage-manicure approved . . .	438	Dump permit approved	1
Massage disapproved	1	Garbage transportation ap- proved	3
Ice cream dealers approved . . .	189	Pedlers' licenses approved . . .	164
Ice cream manufacturers ap- proved	4	Undertakers (new license) . . .	3
Sherbert manufacturers ap- proved	7	Manhole cleaning	1
		Pedlers certificate	6

MEDICAL DIVISION.

Reported cases	1,097	Visits:	
Nonresidents	68	By V. D. investigator	423
Deaths investigated	42	By medical inspectors to cases of communicable disease . . .	378

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF JULY, 1931.

DIPHTHERIA:			
Positive for diagnosis	.	.	66
Positive for release	.	.	134
Negative for diagnosis	.	.	611
Negative for release	.	.	94
No growth cultures	.	.	32
			— 937
DARK-FIELD TREPONEMA PALLIDA:			
Positive	.	.	3
Negative	.	.	2
			— 5
GONORRHEAL OPHTHALMIA:			
Positive	.	.	1
Negative	.	.	83
			— 84
GONORRHEAL URETHRITIS:			
Positive	.	.	117
Negative	.	.	727
			— 844
GENITO URINARY TUBERCULOSIS:			
Positive	.	.	2
Negative	.	.	6
Unsatisfactory	.	.	1
			— 9
MALARIA:			
Negative	.	.	4
MISCELLANEOUS EXAMINATION:*			
Positive	.	.	18
Negative	.	.	86
Unclassified	.	.	229
			— 332
TUBERCULOSIS:			
Positive	.	.	51
Negative	.	.	295
Unsatisfactory	.	.	1
			— 347
TYPHOID:			
Positive	.	.	5
Negative	.	.	57
			— 62
SYPHILIS:			
Positive	.	.	97
Negative	.	.	907
Unsatisfactory	.	.	8
Doubtful	.	.	11
			— 1,023
Bacteriological milk examinations	.	.	593
Bacteriological ice cream examinations	.	.	101
			—
Total	.	.	<u>4,341</u>
Beaches	.	.	18
Swimming pools examined	.	.	64
Extra waters examined	.	.	9

* Vaginal culture for organism, 1; rye bread for foreign substance, 1; bread molds, 1; Swedish rye bread, 1; paratyphoids, 4; unit urines, 228; Vincent's angina, 14; virulence, 21; Roquefort cheese for organisms, 1; fæces for eberthella typhi, 25; urine for eberthella typhi, 32.

FOOD DIVISION.

(MILK INSPECTION.)

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during July, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.	12.21	3.77	23,500
Antetomasso, Peter.	12.67	4.10	11,000
Casey, James D.	12.44	3.78	15,000
Cashin, J. F., & Co.	12.31	3.90	10,000
Cedar Hill Farm, Inc.*.	12.61	4.10	12,500
Chapin, George L.	12.77	4.02	14,500
Clark, Levi.	12.13	3.81	32,000
Corkery, John J.	12.66	3.93	38,000
Cosgrove, Martin S.	12.39	3.84	29,000
Daley, John.	11.92	3.50	7,000
Dean, Louis W.*.	13.82	4.60	3,000
Deerfoot Farms Company.	12.69	4.07	8,000
Denehy, Timothy.	12.67	3.95	20,000
Driscoll, William B., Company.	12.38	4.00	11,000
Elm Spring Farm Company.	12.63	3.97	18,000
Ferguson, Malcolm D.	12.26	3.85	26,000
Garfield, Mason*.	13.90	4.95	96,375
Garvin, Charles.	14.57	5.02	2,500
Giroux, J. E. & H. J.	12.50	3.96	15,000
Griffin, Joseph L.	12.57	4.06	12,000
Gushee, Chester W.	12.58	3.97	19,000

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Hampden Creamery Company.....	12.69	3.96	25,300
Herlihy Brothers, Inc.....	12.15	3.66	28,750
Hickey, J. B.....	12.23	3.89	13,000
Holden, John E.....	12.17	3.70	20,000
Hood, H. P., & Sons, Inc.....	12.23	3.80	19,800
Hutchinson, Frank T.....	12.44	4.00	11,000
Jones, William T., Company.....	12.55	4.00	35,000
Kendall Brothers.....	12.36	3.79	47,000
Kingston Brothers.....	12.40	3.90	38,000
Knapp, George J.*.....	12.28	3.77	33,000
Lang Brothers.....	12.34	3.80	22,000
Larsson, Charles*.....	12.29	3.72	27,000
Lyndonville Creamery Association.....	12.54	4.05	13,000
Manning, Harriet.....	12.57	3.82	21,750
McAdams, J. F., & Brothers, Inc.....	12.54	3.95	10,000
McKernan, John.....	12.60	4.10	13,000
New England Creamery Products Company*.....	12.66	4.07	27,000
Prescott, J. B., Company.....	12.47	4.16	12,000
Robinson, A. J.*.....	13.28	4.40	9,000
Schuster, Adam.....	12.53	4.02	19,500
Seven Oaks Dairy Company.....	12.38	3.95	13,820
Shawsheen Dairy, Inc.....	12.13	3.65	10,000
Shick, Jacob.....	12.14	3.50	9,000
Somerset Farm Creamery Company.....	12.88	4.23	13,500
Sterling Farm Milk Company.....	12.31	3.61	13,000
Stone, H. L.....	12.24	3.75	14,500
Stuart, W. E., Company.....	12.19	3.90	44,000
Tufts Brothers.....	12.22	3.62	13,000
Turner Centre System, Inc.....	12.23	3.75	14,500
United Farmers Co-operative Creamery Association, Inc....	12.68	4.22	10,666
Walker-Gordon Laboratory Company*†.....	12.66	4.05	50
Weiler, E., & Sons*.....	12.49	4.06	17,750
Westwood Farms Milk Company.....	12.33	3.78	29,000
White Brothers.....	12.41	3.91	14,500
Whiting Milk Companies.....	12.30	3.75	17,625
Whittemore, Warner D.....	12.47	3.80	17,000
Wiswall, Granville A.....	12.40	3.81	34,500
Woodland, Charles L.*.....	12.71	4.15	19,500

* All milk from cows tuberculin tested within one year under state and federal supervision.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P. & Sons, Inc....	12.17	3.77	17,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc., and Whiting Milk Companies.	12.11	3.67	17,000
First National Stores, Inc.....	Bellows Falls Co-operative Creamery Association.	12.64	4.10	10,000
Friend Brothers, Inc.....	Hood, H. P. & Sons, Inc....	12.11	3.73	15,000
Gray-United Stores, Inc.....	Turner Centre System, Inc.	12.11	3.70	10,000
Morgan Brothers Company.....	New England Creamery Products Company and United Farmers Co-operative Creamery Association, Inc.	12.64	4.12	14,000
H. Winer Company.....	Whiting Milk Companies...	12.29	3.70	15,000
M. Winer Company.....	M. Winer Company.....	12.57	4.03	30,000

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farms Company.....	Alta Crest *.....	13.12	4.20	1,100
Hood, H. P., & Sons, Inc.....	Own *.....	12.64	3.75	1,800
Walker-Gordon Laboratory Company.	Own *.....	12.62	4.00	2,400
Whiting Milk Companies.....	Hampshire Hills.....	13.15	4.40	1,500

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK — PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P. & Sons, Inc.....	Own *.....	13.76	4.95	125
Whiting Milk Companies.....	Hampshire Hills.....	12.70	3.75	100

* All cows tested and reported free from infectious abortion.

GRADE A MILK—PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	12.39	4.00	8,000
Cashin, J. F., & Co.*.....	12.82	4.50	3,500
Corkery, John J.....	13.13	4.53	28,000
Cosgrove, Martin S.....	12.83	4.15	47,000
Dean, Louis W.*.....	13.86	4.70	6,000
Elm Spring Farm Company.....	13.02	4.25	8,000
Griffin, Joseph L.....	13.03	4.35	6,500
Gushee, Chester W.....	12.79	4.17	24,000
Herlihy Brothers, Inc.....	12.47	4.10	11,000
Hood, H. P., & Sons, Inc.*.....	12.53	4.12	6,000
Jones, William T., Company.....	13.00	4.23	56,000
Lyndonville Creamery Association.....	13.08	4.50	5,500
McAdams, J. F., & Brothers, Inc.....	12.89	4.33	6,000
New England Creamery Products Company*.....	13.09	4.35	7,000
Robinson, A. J.....	12.75	4.35	8,500
Seven Oaks Dairy Company.....	12.84	4.40	4,000
Shawsheen Dairy, Inc.....	12.85	4.00	6,000
Sterling Farm Milk Company.....	13.03	4.30	8,000
Turner Centre System, Inc.....	12.45	4.05	4,500
White Brothers*.....	12.84	4.32	17,000
Whiting Milk Companies*.....	12.54	4.15	4,800

* All milk from cows tuberculin tested within one year under state and federal supervision.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	371
Milk from stores	1,078
Milk brought by citizens	5
Tonic	1
Miscellaneous	2
Butter	4
Ice Cream	1
Frankfurts	1
Bottles	14
Caps	36

Samples referred to Bacteriological Laboratory for examination:

Milk	593
Ice cream	101
Court cases	8
Fines	\$600
Fine (on Probation)	\$100

DAIRY DIVISION.

Total services	3,649	Total cattle inspected	13,274
Dairies inspected	819	Inspection of milk plants and	
Scoring above 50 *	648	licensed dealers	239
Scoring below	171	Country creamery inspections	10
With milk rooms	726	Sediment tests	1,192
Without milk rooms	93	Bacteriological examinations	1,300
Inactive	42		

* Passable mark.

FOOD INSPECTION DIVISION.

JULY, 1931.

District inspections	2,924
Reinspections	221
Market inspections	1,105
Terminal inspections	515
Vehicle inspections *	4,139
Stand inspection	1,053
Complaints	41
Notices served	102
Hours on special duty	139
Samples taken	1
Condemnations	152
Pedlers' licenses certified	164
Pedlers' vehicles approved	788
Numbers assigned	206

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	2,673	Parts condemned	659
Calves inspected	2,910	Animals condemned	21
Swine inspected	2,852	Total of meat condemnations	
Sheep inspected	219	(pounds)	13,685

SANITARY DIVISION.

Original inspections	3,979	Complaints investigated	897
Causes for action found	2,202	Nuisances abated	2,313
Reinspections	7,761	Routine inspections	2,909
Legal notices served	154		

TUBERCULOSIS DIVISION.

In the month of June there were eighty-six day clinic sessions and thirty-nine evening clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	12	15	94	109	4	9	—	9
East Boston.....	7	28	38	76	4	3	—	3
North End.....	9	30	76	106	5	5	1	6
West End.....	10	36	30	66	4	5	—	5
South Boston.....	9	45	54	99	5	5	—	5
Boston Dispensary....	8	31	9	40	—	—	—	—
Brighton.....	4	7	11	18	4	5	3	8
Charlestown.....	5	29	50	79	4	1	3	4
Codman square.....	8	83	112	195	4	8	3	11
Hyde Park.....	5	45	55	100	5	5	3	8
Arcadia street.....	5	21	40	61	—	—	—	—
Roxbury.....	4	71	46	117	—	—	—	—
Totals.....	86	551	625	1,066	39	46	13	59

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	26	21	49	3	—	3
East Boston.....	11	4	15	—	—	—
North End.....	10	6	16	1	—	1
West End.....	3	3	6	1	—	1
South Boston.....	12	18	30	2	—	2
Boston Dispensary.....	1	6	7	—	—	—
Brighton.....	2	2	4	1	—	1
Charlestown.....	7	8	15	1	—	1
Codman square.....	14	26	40	1	—	1
Hyde Park.....	7	11	18	1	—	1
Arcadia street.....	3	4	7	—	—	—
Roxbury.....	2	1	3	—	—	—
Totals.....	100	110	210	11	—	11

DISTRICTS.	DAY CLINIC.				NIGHT CLINIC.				
	VON PIRQUET.		Wasser- mann.	Lamp.	VON PIRQUET.		Wasser- mann.	Lamp.	X-Ray Report.
	V. P.	V. P. Tests.			V. P.	V. P. Tests.			
South End.....	29	25	25	57	1	—	2	—	137
East Boston.....	11	9	7	—	—	—	—	—	12
North End.....	15	8	11	—	—	—	1	—	28
West End.....	6	9	4	—	—	—	1	—	18
South Boston.....	18	13	10	7	—	—	1	—	89
Boston Dispensary...	4	3	—	—	*	*	—	—	—
Brighton.....	2	0	—	—	—	—	1	—	—
Charlestown.....	10	8	5	—	—	—	—	—	27
Codman square....	33	34	16	—	—	3	2	—	—
Hyde Park.....	13	6	6	—	—	1	1	—	—
Arcadia street.....	8	—	3	—	*	3	—	—	—
Roxbury.....	5	3	5	—	*	*	—	—	23
Totals.....	154	118	92	64	1	7	9	—	334

* No night clinic.

WHOOPIING COUGH.

Over one half the deaths from whooping cough reported in Boston are among children under a year old. Whooping cough is, therefore, one factor which tends to keep up a high infant mortality. This disease is contagious in its earliest stage, as soon as the cough appears and before the child begins to whoop. The history of the disease in many a family has indicated that if the other children could have been immunized when the first child was recognized to have whooping cough, a life might have been saved.

GET VACCINATED.

Warning cannot be given too often of the dangers from smallpox, the ease with which a person may be infected and the dreadful consequences which follow even though the case does not end in death. Although there are no cases of smallpox in Boston at the present time, there is constant danger from the mild, unrecognized cases that may come to the city from other cities where the disease is now prevalent. To prevent such infection, vaccination is the only safeguard.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING JULY, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	4	10.81
Seven days or less.....	4	10.81
Eight to fourteen days, inclusive.....	—	—
Fifteen to twenty-one days, inclusive.....	2	5.41
Twenty-two to thirty-one days, inclusive.....	1	2.70
WITHIN FIRST MONTH. (Total).....	11	29.73
Within second month.....	4	10.81
Within third month.....	3	8.11
Within fourth month.....	2	5.41
Within fifth month.....	—	—
Within sixth month.....	1	2.70
Within seventh month.....	1	2.70
Within eighth month.....	3	8.11
Within ninth month.....	—	—
Within tenth month.....	2	5.41
Within eleventh month.....	1	2.70
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	28	75.68
Within second year.....	5	13.50
Within third year.....	2	5.41
More than three years.....	2	5.41
Grand totals.....	37	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF JUNE, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	31	17	24	13
North Reading State Sanatorium.....	—	3	4	6
Lakeville State Sanatorium.....	5	4	2	4
Rutland State Sanatorium.....	4	2	2	2
Westfield State Sanatorium.....	—	—	1	1
Tewksbury.....	4	—	2	—
Totals.....	44	26	35	26

PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	—
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	6	—	1	—
Doctor Crane's Sanatorium.....	—	—	—	—
Rutland Prison Camp.....	—	—	—	—
Totals.....	6	—	1	—

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, July, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	160	1	161	26	3	29	5	34
Lincoln street.....	109	58	167	21	0	21	5	33
Charlestown.....	377	114	491	36	1	37	9	55
Codman square.....	464	24	488	67	2	69	9	54
Columbia road.....	261	11	272	38	0	38	9	30
Arcadia street.....	404	35	439	46	2	48	9	48
East Boston.....	425	21	446	82	6	88	9	50
Hyde Park.....	186	37	223	25	1	26	9	25
Jamaica Plain.....	227	41	268	34	1	35	5	54
North End.....	204	70	274	36	1	37	9	30
Roslindale.....	223	47	280	34	1	35	4	70
Roxbury.....	694	34	728	103	6	109	14	52
Children's Hospital.....	90	10	100	7	0	7	4	25
Columbus avenue.....	445	61	506	62	7	69	9	56
South Boston.....	385	49	434	72	11	83	9	48
South End.....	282	11	293	42	0	42	9	32
Tyler street.....	98	8	106	9	1	10	4	27
West End.....	378	109	487	44	0	44	9	54
Totals.....	5,422	741	6,163	784	43	827	140	43

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, JULY, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations
	First.	Second.	Third.	Total.	
Old Town Hall.....	4	8	10	22	29
Lincoln street.....	0	0	0	0	28
Charlestown.....	15	7	5	27	49
Codman square.....	7	22	28	57	35
Columbia road.....	4	3	5	12	32
Arcadia street.....	2	3	4	9	48
East Boston.....	0	0	0	0	0
Hyde Park.....	5	4	6	15	39
Jamaica Plain.....	0	5	5	10	15
North End.....	4	2	2	8	8
Roslindale.....	3	3	7	13	42
Roxbury.....	5	5	9	19	47
Children's Hospital.....	0	0	0	0	3
Columbus avenue.....	9	9	4	22	45
South Boston.....	0	6	1	1	1
South End.....	9	9	12	30	15
Tyler street.....	4	6	4	14	7
West End.....	3	7	1	11	2
Totals.....	74	93	103	270	455

REPORT OF MEDICAL INSPECTORS, JULY, 1931.

Inspections	119
Physical examinations	2,142
Schick tests	5
Toxin-antitoxin	252
Vaccinations at units	318
Vaccination certificates	246
Day nursery visits	4

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, JULY, 1931.

UNIT.	Number of Patients.	Number of Operations.
West End.....	123	138
North End.....	66	69
South End.....	150	282
East Boston.....	81	277
South Boston.....	273	304
Roxbury.....	210	275
Charlestown.....	242	269

COOPERATIVE HEALTH UNIT REPORT, JULY, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physician.....	38				59		35	132
HULL STREET DISPENSARY:								
Calls by district physician.....			8					8
BOSTON LYING-IN HOSPITAL:								
Prenatal clinics.....	3	4	1	4	5		5	22
Attendance.....	27	83	12	29	91		81	323
New cases.....	5	15	2	3	15		16	56
FAMILY WELFARE SOCIETY:								
Staff meetings.....		4						4
Attendance.....		29						29
CHILDREN'S HOSPITAL:								
Infantile clinics.....	5	5			4	1		15
Attendance.....	19	14			62	5		100
BOY SCOUTS OF AMERICA:								
Meetings.....				1				1
Attendance.....				5				5
STATE DEPARTMENT OF MENTAL DISEASES:								
Habit forming clinics.....							5	5
Attendance.....							29	29
New cases.....							6	6
BOSTON SCHOOL DEPARTMENT:								
Playground attendance.....	7,250	4,136	530	5,070	4,126		2,158	23,270
HEALTH DEPARTMENT:								
Refraction Service:								
Refractions.....			5					5
Number of diagnoses.....			8					8
Glasses recommended.....			3					3
New cases.....			5					5
Nose and Throat Service:								
Clinics.....			3				3	6
Attendance.....			350				239	589
Operations recommended.....			114				59	167
MOTHERS CLUB (HDD):								
Meetings.....	1	1	1	1				4
Attendance.....	10	13	22	12				57

NURSING SERVICE.

REPORT FOR JULY, 1931.

HOMES VISITED	12,900
-------------------------	--------

CHILD HYGIENE:

Visits to new cases	1,027
Visits to old cases	7,812
	<hr/> 8,839
Included are:	
Wrong addresses	80
Not seen *	700
	<hr/>
Absent visits	780

COMMUNICABLE DISEASES:

Visits to new cases	578
Visits to old cases	1,279
	<hr/> 1,857
Included are:	
Wrong addresses	36
Not seen *	63
	<hr/>
Absent visits	99

TUBERCULOSIS:

Visits to new cases	156
Visits to old cases	4,529
	<hr/> 4,685
Included are:	
Wrong addresses	42
Not seen *	368
	<hr/>
Absent visits	410
Positive cases visited	1,994
Contact cases visited	1,869
Suspect cases visited	412
	<hr/> 4,685

MISCELLANEOUS VISITS:

Infant death investigations	3
Patients accompanied to hospital	3
Visits to day nurseries	22
Visits to parochial schools	1
Nutrition visits	2
Posture visits	2
	<hr/> 33
	<hr/> 15,414

	Hrs.	Mins.
Hours in station by nurses	3,101	05
Hours at baby and pre-school conference	1,601	25
Hours at tuberculosis clinic	629	10
Hours at nurses' conference	5	00
	<hr/>	
Total number of hours	5,336	40

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, JULY, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JULY, 1931, WITH COMPARATIVE FIGURES FOR JULY, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	812	739	+73	12.41	11.34	+1.07
Nonresidents deducted.....	638	589	+49	9.75	9.04	+ .71
BY AGE:						
Under one year.....	90	75	+15	1.37	1.15	+ .22
One year to four years, inclusive.....	24	27	—3	.37	.41	— .04
Sixty years and over.....	340	320	+20	5.19	4.91	+ .28
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,210	1,205	+5	18.49	18.49	—
b. Registered stillbirths.....	35	38	—3	.53	.58	— .05
Stillbirths per 1,000 live births and stillbirths.....	—	—	—	28.11	30.57	—2.46
c. Deaths of mothers from causes incident to childbirth.....	12	5	+7	.18	.08	+ .10
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	9.64	4.02	+5.62
d. Deaths in first year per 1,000 live births..	90	75	+15	74.38	62.24	+12.14
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	47	34	+13	7.18	52.2	+19.6
Homicides.....	2	2	—	3.0	3.1	— .1
Suicides.....	9	7	+2	1.37	10.7	+3.0
Automobile accidents * (death in Boston)...	8	8	—	12.2	12.3	— .1
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	10	10	—	15.3	15.3	—
Broncho-pneumonia.....	28	38	—10	42.8	58.3	—15.5
Cancer.....	115	109	+6	175.7	167.3	+8.4
Cirrhosis of the liver.....	2	6	—4	3.0	9.3	—6.3
Diabetes mellitus.....	13	14	—1	19.9	21.5	—1.6
Diarrhea and enteritis (under two years)...	16	9	+7	24.4	13.8	+10.6
DEGENERATIVE DISEASES, So CALLED:						
Arterio sclerosis.....	16	10	+6	24.4	15.3	+9.1
Cerebral hemorrhage.....	25	47	—22	38.2	72.1	—33.9
Heart disease.....	191	146	+45	291.8	224.0	+67.8
Nephritis, chronic.....	48	50	—2	73.3	76.7	—3.4

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING JUNE,
1931, WITH COMPARATIVE FIGURES FOR JULY, 1931.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 38	9	+29	58.1	13.8	+44.3
	Deaths. 5	—	+5	7.6	—	+7.6
Cerebrospinal meningitis.....	Cases.. 1	1	—	1.5	1.5	—
	Deaths. 1	—	+1	1.4	—	+1.5
Diphtheria.....	Cases.. 82	50	+32	125.3	76.7	+48.6
	Deaths. 4	1	+3	6.1	1.5	+4.6
Influenza.....	Cases.. 5	2	+3	7.6	3.0	+4.6
	Deaths. 1	—	+1	1.5	—	+1.5
Measles.....	Cases.. 118	398	-280	180.3	610.7	-430.4
	Deaths. —	4	-4	—	6.1	-6.1
Pneumonia (lobar).....	Cases.. 27	33	-6	41.2	50.6	-9.4
	Deaths. 13	11	+2	19.9	16.9	+3.0
Scarlet fever.....	Cases.. 96	73	+23	146.7	112.0	+34.7
	Deaths. —	2	-2	—	3.0	-3.0
Tuberculosis (pulmonary).....	Cases.. 137	112	+25	209.3	171.9	+37.4
	Deaths. 39	42	-3	59.6	64.4	-4.8
Tuberculosis (other forms).....	Cases.. 30	34	-4	45.8	52.2	-6.4
	Deaths. 7	7	—	10.7	10.7	—
Typhoid fever.....	Cases.. 8	4	+4	12.2	6.1	+6.1
	Deaths. 1	—	+1	1.5	—	+1.5
Whooping cough.....	Cases.. 116	202	-86	177.2	310.0	-132.8
	Deaths. —	6	-6	—	9.3	-9.3

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

1559

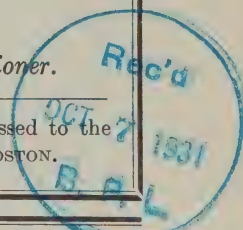
MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.



VOL. 20.

BOSTON, SEPTEMBER, 1931.

NO. 9

ACUTE ANTERIOR POLIOMYELITIS.

While residents of Boston may be expected to be reported in noteworthy numbers as paralytic victims of this disease until after the middle of October, it may now (September 3) be safely predicted that this city has again this year, for some unknown reason, escaped an epidemic visitation of this crippling affliction.

The cases of acute anterior poliomyelitis reported to the Boston Health Department for each month of the year 1931 are shown in the following table:

CASES OF ACUTE ANTERIOR POLIOMYELITIS REPORTED IN BOSTON IN 1931.

MONTH.	Resident.	Nonresident.
January.....	2	3
February.....	1	1
March.....	2	—
April.....	—	1
May.....	2	—
June.....	2	3
July.....	26	15
August.....	78	85
Total.....	113	108

Some comment on these figures is necessary for a correct understanding of their significance. It is to be noted that until July the monthly total of reported cases was no greater than for January. When Boston has suffered from an epidemic visitation of poliomyelitis a warning has always appeared in the occurrence, early in June or even in May, of multiple cases in certain localities in the outskirts of the city. As the season has advanced the disease as indicated by paralytic victims has seemed to work its way into the city in linear directions which apparently conform roughly to routes of travel, but it does not appear that the victims are confined to persons or the families of persons who have used the public conveyances along such routes. As the season has gone on, certain localities, the same in every epidemic, have produced multiple cases, thus appearing to be "nests" of the disease, but on the whole reported cases have shown a tendency to scatter rather than localize. This year except for a possible indication of localizing to a slight extent in South Boston, reported cases of Boston residents have been widely distributed in the city, and even resident cases have often suggested the "back wash" of infection elsewhere.

Why inmates of institutions should be exempt from infantile paralysis is not apparent, but, as a matter of fact, in contrast with our experience with cerebrospinal meningitis, for example, no outbreak of acute anterior poliomyelitis has ever occurred in an institution in Boston. When a recently admitted individual has developed the disease, presumably as a result of infection prior to admission, secondary cases among the other inmates have never followed.

The number of cases reported for July and August, as shown by the above table, indicates that the total reported cases for this year will be about double the average annual total for recent years.

The nonresident cases represent almost entirely paralytic cases which have come to Boston for treatment, and their number will probably increase until the season is over. The law requires them to be reported to the Boston Health Department and by it they have to be charged statistically to the ward in which they may be hospitalized or where they may be living while undergoing treatment for paralysis. These facts should not be overlooked in making an epidemiological study of the disease in Boston.

The above table shows a total of 113 cases reported in eight months in a city of 800,000 population. This total is too small to be comparable with the figures of past years. Efforts to detect cases in the pre-paralytic stage with view to the early administration of therapeutic sera is resulting in the reporting of more cases every year without paralytic symptoms.

As might be expected our investigations this year have disclosed errors in diagnosis so obvious that our records have been changed, but more often the difficulty or impossibility of proving a case not to have been a nonparalytic infection has resulted in the crediting of a questionable case statistically to poliomyelitis.

In previous years when the prospect of an unusual prevalence of poliomyelitis has become apparent the Boston Health Department has provided additional personnel and diagnostic equipment with a view to assuring physicians prompt diagnostic aid when requested by them. This year expert advice has been made available to physicians by so many agencies that additions to the department's regular diagnostic staff and equipment has seemed unnecessary. The department has, however, utilized its nurses to take daily, for two weeks, the temperature of all household contacts of every reported case of poliomyelitis, beginning, seven days after the onset of symptoms.

The data thus furnished by nurses has not as yet (September 3, 1931) been carefully studied, but it may be stated that thus far, while, as might be expected, temporary elevations of temperature among contacts have not been uncommon, in no instance have any symptoms suggestive of secondary cases of poliomyelitis among contacts been discovered.

Nearly all the cases of poliomyelitis have been hospitalized, not with view to public protection but in the supposed interest of the patient in the matter of treatment. In cases which have remained at home the quarantine has been supervised by the department's nurses. Their instructions virtually prescribe the regular precautions observed in cases of typhoid fever as well as of scarlet fever.

GETTING THE CHILD READY FOR SCHOOL LIFE.

It is stated by the United States Public Health Service that properly to prepare children for school life is one of the most important duties of parents. Just as it is the duty of the community to provide adequate facilities to the end that every boy and girl may be given the opportunity to secure an education, so it is the duty of the parents to see that, so far as lies within their power, their children shall be in the best mental and physical condition to enter upon school life. Children with strong, clean bodies and minds not warped by fear or other unnatural emotions are happy and more quickly adjust themselves to their new surroundings.

The provision of proper food and clothing, training in good habits of hygiene, and regulation of sleep and rest are all part of the parent's duty in preparing their child for school life. The public

health program includes, in addition, the correction of such physical defects as are amenable to treatment, and the securing for the child immunization against diphtheria and vaccination against smallpox.

Preparation for school life does not begin just a few days, a few weeks, or a few months before the child starts to school; the period of preparation covers the whole time from birth to school age. Training in habits affecting health and development should begin early in life. Regular hours of sleep and rest, regular habits of eating, proper attention to body cleanliness, and care of the bowels are best begun at the earliest possible age. Before a baby is many weeks old the mother is aware of the importance of establishing for her baby those habits which make for his health and happiness; for a well-regulated and healthy baby is invariably a happy and contented child.

It is interesting to observe with what ease a child may be taught to clean his teeth. As a child learns to feed himself by watching others and trying to use his fork and spoon, in the same manner and just as early in life he may be taught to use a tooth brush. If the first teeth are cleaned regularly and examined at frequent intervals for the earliest evidence of decay, they may usually be kept in service for their normal period. Neglected "baby teeth," not only lead to a chronic diseased condition of the parts about the tooth which often persist and are present when the permanent teeth appear, but they are lost before the normal time and the child is deprived of their use. Also the early loss of the first teeth may cause delayed eruption of the permanent teeth and increase the tendency of such teeth to assume a poor position when they do appear. Improper nutrition and slow physical development are frequently associated with bad teeth.

During the preschool or "toddling age," is the best time to learn of any physical defect which should be corrected. If examination for such defects is left for the school nurse or school physician, the child not only loses the advantage to be gained by earlier correction, but later, in many instances, must actually lose time from school while such corrections are being made. Therefore, a child is not ready for school until these defects have received attention. Minor defects of the nose and throat, which often are easily and quickly corrected, when neglected greatly influence the incidence of minor and often serious respiratory infections.—*U. S. Public Health Service, September 5, 1931.*

The defective child unless his defects be corrected becomes the defective man, and whereas correction is possible during early life it becomes impossible in later life.

THE TREATMENT OF CANCER.

The organization of a cancer institute or a cancer hospital *de novo* is a matter of very considerable expense, and can be accomplished only by large endowment or generous State or Federal appropriations. Most of our large general hospitals, however, are already equipped with minimum amounts of radium and with x-ray therapy apparatus, and possess an up-to-date pathological laboratory, in addition to their general and special medical and surgical equipment.

The expense of organization of a special cancer clinic or cancer service, therefore, in such an institution reduces itself simply to the provision of such clerical, nursing, and social-service staff as the size of the clinic warrants. The staff is appointed from the existing hospital staff by selecting those physicians and surgeons who are interested and qualified to conduct this service, in cooperation with the radium and x-ray therapy department, and with the pathologist of the hospital. Such an assignment to a special service should be regarded as a privilege accorded by the other members of the hospital staff in the confident expectation of benefits to come — to the patients, to the hospital, and to the advance of medicine.

We* can tell the laymen the following facts:

The directors of the American Society for the Control of Cancer advocate the organization of special cancer institutes and cancer hospitals, where funds sufficient for their maintenance can be obtained from private or public sources. Where separate institutions of this nature are not obtainable, they recommend the organization of special cancer services and cancer clinics in existing general hospitals for the following reasons:

1. The most effective method now available for the early diagnosis and successful treatment of cancer in its many situations consists in entrusting this responsibility to a group of interested members of the hospital staff, including especially representatives of the surgical, medical, and radiotherapy departments, with a pathologist skilled in tumor pathology, and representatives of special departments, such as genito-urinary surgery, gynecology, and nose and throat surgery.

2. Such a service or clinic can be organized in almost every large general hospital at a minimum expense.

3. The group method of study of cancer, as in so many other fields, has already contributed materially to the advance of knowledge, and has improved the results of treatment of the disease.

4. Such a service or clinic has also great educational value, not only to the participants on the staff but to house-officers and

* The American Society for the Control of Cancer.

medical students, nurses and social workers, to the general staff of the hospital, and to the physicians of the community upon whom the hospital depends for its clinical material.

5. It does not seem too much to hope that the further development of such clinics throughout the country and their coordination through the American College of Surgeons may raise the standards of treatment of cancer, and as a practical result begin to reduce the frightful mortality from this disease.

— *Excerpts from an article by Robert B. Greenough, M. D., appearing in the American Journal of Cancer, Vol. XV., No. 2, April, 1931.*

SMALLPOX VACCINATION.

A study of the smallpox situation in United States, and the laws relating to vaccination and their enforcement, shows that the best vaccinated states have the least smallpox. Our state enjoys almost complete freedom from this scourge. Because of this fact, many people feel that the disease no longer possesses its old time menace and neglect vaccination. Vaccination is still a public duty.

SUMMARY OF WORK, AUGUST, 1931.

ADMINISTRATION DIVISION.

Prosecutions	2	Personnel:	
Legal notices	119	Retirement	1
Settlements:		Permanent appointments	4
Total cases	97	Resignations	2
Notices	75		
Bills	22		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	895	Sherbet manufacturing licenses	
Denatured alcohol approved	5	approved	3
Hen licenses approved	34	Milk licenses approved	129
Massage-manicure approved	108	Dump permit approved	1
Ice cream dealers approved	78	Garbage transportation ap-	
Ice cream manufacturers ap-		proved	1
proved	5	Pedlers' licenses approved	128
Ice cream dealer disapproved,	1	Undertaker (new license)	1
Beverage licenses approved	12		

MEDICAL DIVISION.

Reported cases	901	Visits:	
Nonresidents	108	By V. D. investigator	294
Deaths investigated	42	By medical inspectors to cases	
		of communicable disease	295

LABORATORY DIVISION.

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF AUGUST, 1931.

DIPHTHERIA:

Positive for diagnosis	44	
Positive for release	108	
Negative for diagnosis	522	
Negative for release	87	
No growth cultures	26	
	<hr/>	787

DARK FIELD, TREPONEMA PALLIDA:

Negative	2	
Unsatisfactory	2	
	<hr/>	4

GENITO URINARY TUBERCULOSIS:

Negative	8	
Unsatisfactory	3	
	<hr/>	11

GONORRHEAL OPHTHALMIA:

Negative		41
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GONORRHEAL URETHRITIS:

Positive	136	
Negative	663	
Unsatisfactory	2	
	<hr/>	801

MALARIA:

Negative		5
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MISCELLANEOUS EXAMINATIONS:*

Positive	23	
Negative	30	
Unclassified	179	
	<hr/>	232

TUBERCULOSIS:

Positive	47	
Negative	213	
Unsatisfactory	5	
	<hr/>	265

TYPHOID:

Positive	4	
Negative	41	
	<hr/>	45

SYPHILIS:

Positive	103	
Negative	693	
Doubtful	11	
Unsatisfactory	14	
	<hr/>	821

Bacteriological milk examination		605
--------------------------------------------	--	-----

Total		<hr/> <u>3,617</u>
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Swimming pools examined		64
Water from beaches		27
Extra waters		7

* Unit urines, 179; Vincent's angina, 11; virulence, 12; urethra smear, 1; urine for eberthella typhi, 11; feces for eberthella typhi, 10; cream filled cakes for B coli, 8; urethra smear for acid fast bacilli.

FOOD DIVISION.

(MILK INSPECTION.)

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during August, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.*.....	12.25	3.93	8,000
Antetomasso, Peter.....	12.60	4.20	7,000
Buxton, William E.*.....	14.05	4.85	15,000
Casey, James D.....	12.54	4.03	14,000
Cashin, J. F., & Co*.....	12.23	3.81	13,000
Cedar Hill Farm, Inc.*.....	12.76	4.05	3,000
Chapin, George L.....	13.06	4.20	8,000
Clark, Levi.....	12.12	3.70	4,000
Corkery, John J.....	12.48	3.83	16,000
Cosgrove, Martin S.....	12.40	3.93	21,000
Daley, John.....	12.08	3.53	5,000
Dean, Louis W.*.....	12.72	4.63	4,000
Deerfoot Farms Company*.....	12.68	4.07	2,500
Denehy, Timothy.....	12.56	4.03	11,000
Driscoll, William B., Company.....	12.36	4.00	10,000
Elm Spring Farm Company.....	12.47	3.94	19,000
Ferguson, Malcolm D.....	12.26	3.85	8,500
Garfield, Mason *.....	14.40	5.45	400
Garvin, Charles.....	13.85	5.10	4,000
Giroux, J. E. & H. J.....	12.44	3.90	14,000
Griffin, Joseph L.....	12.72	4.00	8,000
Gushee, Chester W.....	12.38	3.83	16,000

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Hampden Creamery Company.....	12.56	3.93	8,000
Herlihy Brothers, Inc.....	12.21	3.77	54,000
Hickey, J. B.	12.50	4.25	13,000
Holden, John E.....	12.16	3.77	12,000
Hood, H. P., & Sons, Inc.....	12.31	3.86	19,000
Hutchinson, Frank T.....	12.98	4.53	5,000
Jones, William T., Company.....	12.49	4.00	28,000
Kendall Brothers.....	12.40	3.80	11,000
Kingston Brothers.....	12.51	3.90	9,000
Knapp, George J.*.....	12.15	3.70	15,000
Lang Brothers.....	12.28	3.90	21,000
Larsson Charles *.....	12.43	3.90	6,000
Lyndonville Creamery Association.....	12.59	4.13	16,000
Manning, Harriet.....	12.42	3.77	10,000
McAdams, J. F., & Brothers, Inc.....	12.61	4.14	11,000
McKernan, John.....	12.57	4.00	11,500
New England Creamery Products Company *.....	12.64	4.11	12,000
Prescott, J. B., Company.....	12.58	4.30	3,000
Robinson, A. J.*.....	13.07	4.35	29,000
Schuster, Adam*.....	12.70	4.25	9,000
Seven Oaks Dairy Company.....	12.28	3.91	8,000
Shawsheen Dairy, Inc.....	12.55	3.80	13,000
Shick, Jacob.....	11.94	3.45	3,500
Somerset Farm Creamery Company.....	12.86	4.23	10,000
Sterling Farm Milk Company.....	12.61	3.90	10,000
Stone, H. L.	12.11	3.70	14,000
Stuart, W. E., Company.....	12.57	4.10	14,000
Tufts Brothers.....	12.40	3.80	15,000
Turner Centre System.....	12.38	3.90	21,000
United Farmers Co-operative Creamery Association, Inc...	12.49	4.06	12,000
Walker-Gordon Laboratory Company * †.....	12.48	3.85	100
Weiler, E., & Sons*.....	12.53	4.01	17,000
Westwood Farm Milk Company.....	12.25	3.81	29,000
White Brothers.....	12.22	3.78	9,000
Whiting Milk Companies.....	12.34	3.78	12,000
Whittemore, W. D.*.....	12.56	3.95	8,000
Wiswall, Granville A.....	12.48	3.94	17,000
Woodland, Charles L.*.....	12.61	4.10	8,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc....	12.49	4.03	20,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.....	12.21	3.73	12,000
First National Stores, Inc.....	Bellows Falls Cooperative Creamery Association.	12.89	4.17	9,000
Friend Brothers, Inc.....	Hood, H. P. & Sons, Inc....	12.33	3.93	15,000
Gray-United Stores, Inc.....	Turner Centre System.....	12.16	3.70	11,000
Morgan Brothers Company.....	New England Creamery Products Company and United Farmers Cooperative Creamery Association, Inc.	12.63	4.02	17,000
H. Winer Company.....	Whiting Milk Companies...	12.60	3.90	22,000
M. Winer Company.....	M. Winer Company.....	12.58	4.03	54,000

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Herlihy Brothers, Inc.....	Alta Crest *.....	12.63	3.85	3,000
Hood, H. P., & Sons, Inc.....	Own *.....	13.17	4.08	1,800
Turner Centre System, Inc.....	Alta Crest *.....	12.64	3.90	2,100
Walker-Gordon Laboratory Company.	Own *.....	12.49	3.90	2,200
Whiting Milk Companies.....	Hampshire Hills.....	12.81	4.00	3,300

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.....	Own *.....	13.86	4.50	200
Whiting Milk Companies.....	Hampshire Hills.....	12.42	3.60	100

* All cows tested and reported free from infectious abortion.

GRADE A MILK—PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.23	4.70	4,500
Cashin, J. F., & Co.*.....	12.98	4.68	8,000
Corkery, John J.....	13.12	4.30	4,000
Cosgrove, Martin S.....	12.76	4.25	33,000
Dean, Louis W.*.....	13.70	4.60	9,500
Elm Spring Farm Company.....	13.20	4.49	10,000
Griffin, Joseph L.....	13.00	4.25	22,000
Herlihy Brothers, Inc.....	12.33	4.18	12,000
Hood, H. P., & Sons, Inc.*.....	12.49	4.11	3,000
Jones, William T., Company.....	13.20	4.50	19,000
Lyndonville Creamery Association.....	13.39	4.50	9,000
McAdams, J. F., & Brothers, Inc.....	12.94	4.50	5,500
New England Creamery Products Company *.....	12.89	4.22	4,500
Robinson, A. J.*.....	13.52	4.78	7,000
Seven Oaks Dairy Company.....	12.64	4.20	5,000
Shawsheen Dairy, Inc.....	13.16	4.10	3,500
Sterling Farm Milk Company.....	12.59	4.00	7,000
Turner Centre System, Inc.....	12.44	4.10	10,000
White Brothers *.....	12.84	4.30	4,500
Whiting Milk Companies *.....	12.52	4.21	13,000
Woodland, Charles L.*.....	13.59	4.90	2,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	347
Milk from stores	1,037
Milk brought by citizens	4
Vinegar	7
Miscellaneous	6

Samples referred to Bacteriological Laboratory for examination:

Milk	605
Court cases	18
Fines	\$475

DAIRY DIVISION.

Total services	2,114	Inactive	38
Dairies inspected	908	Total cattle inspected	13,658
Scoring above 50 *	619	Inspection of milk plants and	
Scoring below	278	licensed dealers	208
With milk rooms	780	Country creamery inspections	8
Without milk rooms	117	Sediment tests ¹	651

* Passable mark.

FOOD INSPECTION DIVISION.

AUGUST, 1931.

District inspections	3,150
Reinspections	201
Market inspections	1,399
Terminal inspections	627
Vehicle inspections *	4,953
Stand inspections	1,231
Complaints	47
Notices to abate	79
Condemnations	139
Pedlers' licenses certified	128
Pedlers' vehicles approved	862

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	2,888	Parts condemned	883
Calves inspected	3,610	Animals condemned	23
Swine inspected	3,026	Total of meat condemnations	
Sheep inspected	376	(pounds)	23,038

SANITARY DIVISION.

Original inspections	2,712	Complaints investigated	766
Causes for action found	1,379	Nuisances abated	1,634
Reinspections	5,201	Routine inspections	1,903

DIPHTHERIA PREVENTION.

In view of the existing knowledge of diphtheria if the death rate from this disease is not reduced it is evident that our ability to prevent the disease is not put to use. The fatality and susceptibility is greater in children under school age than after they are old enough to attend school. It is, therefore, apparent that children should be immunized with toxin-antitoxin before the age of one year, and certainly before they reach school age.

TUBERCULOSIS DIVISION.

In the month of August there were eighty-five day clinic sessions and thirty-nine evening clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	14	84	72	156	5	12	2	14
East Boston.....	9	38	32	70	4	6	—	6
North End.....	9	18	40	58	4	5	—	5
West End.....	8	24	36	60	5	11	3	14
South Boston.....	9	43	66	109	4	7	—	7
Boston Dispensary.....	8	29	9	38	—	—	—	—
Brighton.....	4	12	8	20	5	6	3	9
Charlestown.....	4	28	54	82	4	2	1	3
Codman square.....	8	49	66	115	4	6	—	6
Hyde Park.....	4	22	34	56	4	4	1	5
Arcadia street.....	4	21	25	46	—	—	—	—
Roxbury.....	4	54	62	116	—	—	—	—
Totals.....	85	422	504	926	39	59	10	69

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	19	10	29	6	2	8
East Boston.....	7	4	11	1	—	1
North End.....	—	5	5	—	—	—
West End.....	1	1	2	3	—	3
South Boston.....	6	15	21	—	—	—
Boston Dispensary.....	8	—	8	—	—	—
Brighton.....	1	1	2	1	—	1
Charlestown.....	5	10	15	—	—	—
Codman square.....	9	15	24	1	—	1
Hyde Park.....	4	14	18	1	—	1
Arcadia street.....	5	2	7	—	—	—
Roxbury.....	4	13	17	—	—	—
Totals.....	69	90	159	13	2	15

DISTRICTS.	DAY CLINIC.					NIGHT CLINIC.				
	VON PIRQUET.		Wassermann.	Lamp.	X-Ray.	VON PIRQUET.		Wassermann.	Lamp.	X-Ray.
	V. P.	V. P. Readings.				V. P.	V. P. Readings.			
South End.....	15	10	6	68	—	2	—	2	—	—
East Boston.....	7	5	7	—	3	—	—	1	—	—
North End.....	6	8	3	—	—	—	—	—	—	—
West End.....	5	8	—	—	—	2	1	1	—	—
South Boston.....	25	21	6	5	38	—	1	—	—	—
Boston Dispensary.....	1	1	2	—	—	*	*	*	*	*
Brighton.....	1	2	—	—	—	1	—	2	—	—
Charlestown.....	10	9	2	—	—	—	—	—	—	—
Codman square.....	17	18	8	—	—	—	—	—	—	—
Hyde Park.....	13	21	4	—	—	1	—	—	—	—
Arcadia street.....	3	—	7	—	—	*	*	*	*	*
Roxbury.....	27	18	5	—	—	*	*	*	*	*
Totals.....	130	121	50	73	41	6	2	6	—	—

"Lamp" activities only at South End and South Boston Units.

"X-Ray" activities only at East Boston and South Boston Units.

* No night clinic.

PROTECT YOUR CHILD.

Children are now returning to school after the vacation season with an improved physical condition. The parents can now aid further in promoting their physical welfare by adopting well recognized measures to protect their children against the maladies which begin to show up at this time of the year, when children are apt to crowd together, at home, in school, in theaters, stores, churches and other places of assembly. Communicable diseases begin to appear and now is the time to make use of available means of protection against such diseases and thus promote the physical, economic and financial condition of the family.

Mothers and fathers should help to see to it that their children are immunized against diphtheria. It can be most profitably done before children enter school,—the younger the better,—because it is the pre-school child who is most susceptible.

THE VALUE OF FRESH AIR.

Breathe fresh air, not only in the daytime but during sleeping hours; not only in spring and summer, but in autumn and winter. Fresh air is a splendid tonic. Breathe through the nostrils and by so doing you will filter the dust-laden air before it is received into the cells of the lungs.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING AUGUST, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	10	26.33
Seven days or less.....	3	7.89
Eight to fourteen days, inclusive.....	3	7.89
Fifteen to twenty-one days, inclusive.....	1	2.63
Twenty-two to thirty-one days, inclusive.....	—	—
WITHIN FIRST MONTH. (Total).....	17	44.74
Within second month.....	4	10.53
Within third month.....	2	5.26
Within fourth month.....	2	5.26
Within fifth month.....	3	7.89
Within sixth month.....	—	—
Within seventh month.....	1	2.63
Within eighth month.....	—	—
Within ninth month.....	—	—
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	29	76.31
Within second year.....	4	10.53
Within third year.....	1	2.63
More than three years.....	4	10.53
Grand totals.....	38	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF AUGUST, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	25	12	26	13
North Reading State Sanatorium.....	2	6	6	4
Lakeville State Sanatorium.....	5	2	2	4
Rutland State Sanatorium.....	2	—	1	1
Westfield State Sanatorium.....	—	—	2	1
Tewksbury.....	2	2	2	1
Totals.....	36	22	39	24

PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	—
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	2	—	—	—
Doctor Crane's Sanatorium.....	—	—	—	—
Rutland Prison Camp.....	—	—	—	—
Totals.....	2	—	—	—

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, August, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	196	11	207	100	6	106	4	51
Lincoln street.....	54	32	86	11	—	11	4	22
Charlestown.....	549	332	881	45	5	50	9	28
Codman square.....	478	182	660	70	1	71	9	67
Columbia road.....	226	9	235	37	1	38	9	26
Arcadia street.....	372	61	433	35	1	36	8	54
East Boston.....	497	36	533	100	4	104	9	59
Hyde Park.....	144	55	199	21	1	22	8	25
Jamaica Plain.....	176	18	194	20	—	20	4	49
North End.....	196	51	247	30	—	30	8	31
Roslindale.....	208	23	231	27	4	31	4	58
Roxbury.....	722	36	758	80	6	86	14	54
Children's Hospital.....	115	9	124	11	—	11	4	31
Columbus avenue.....	433	39	472	62	8	70	8	59
South Boston.....	389	75	464	64	14	78	8	58
South End.....	265	16	281	34	1	35	8	35
Tyler street.....	114	17	131	16	4	20	4	33
West End.....	469	99	568	62	8	70	9	63
Totals.....	5,603	1,101	6,704	825	64	889	131	48

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, AUGUST, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	4	3	1	8	55
Lincoln street.....	—	—	—	—	88
Charlestown.....	16	13	14	43	261
Codman square.....	11	16	7	34	192
Columbia road.....	4	4	2	10	260
Arcadia street.....	10	6	3	19	230
East Boston.....	—	—	—	—	—
Hyde Park.....	7	6	6	19	138
Jamaica Plain.....	—	—	—	—	89
North End.....	—	—	—	—	4
Roslindale.....	2	2	1	5	136
Roxbury.....	15	15	10	40	182
Children's Hospital.....	3	2	3	8	13
Columbus avenue.....	3	2	6	11	221
South Boston.....	9	—	—	—	18
South End.....	2	1	6	9	51
Tyler street.....	3	1	2	6	7
West End.....	9	4	5	18	12
Totals.....	89	75	66	230	1,957

REPORT OF MEDICAL INSPECTORS, AUGUST, 1931.

Physical examinations	1,467
Schick tests	2
Toxin-antitoxin	256
Vaccinations at units	1,256
Vaccination certificates	537
Day nursery visits	11

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, AUGUST, 1931.

UNIT.	Number of Patients.	Number of Operations.
West End.....	93	180
North End.....	15	16
South End.....	106	200
East Boston.....	160	170
South Boston.....	372	507
Roxbury.....	249	297
Charlestown.....	131	243
	1,126	1,613

COOPERATIVE HEALTH UNIT REPORT, AUGUST, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Total.
BOSTON DISPENSARY:								
Calls by district physicians.....	48				72		65	185
HULL STREET DISPENSARY:								
Calls by district physician.....			51					51
BOSTON LYING-IN HOSPITAL:								
Prenatal clinics.....	5	5	4	5	4	4	4	31
Attendance.....	27	112	50	42	58	17	40	346
New cases.....	6	27	12	5	10	3		63
FAMILY WELFARE SOCIETY:								
Staff meetings.....		4						4
Attendance.....		33						33
CHILDREN'S HOSPITAL:								
Clinics.....		1			5	5		11
Attendances.....		4			82	15		101
JEWISH WELFARE CENTRE:								
Staff meetings.....							1	1
Attendance.....							17	17
PLAYGROUND ATTENDANCE.....	5,430	4,400	2,830	4,095	2,730		2,045	21,530

COLDS.

One fifth of the deaths of children under one year of age are due to the so-called common cold or the complications following same. We have no specific measure for the prevention of colds, but much benefit can be derived from the recommendation that children should be kept away from those who cough, sneeze, have sore throats or running noses. When colds are prevalent children should be kept away from crowds.

NURSING SERVICE. REPORT FOR AUGUST, 1931.

HOMES VISITED	11,454
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CHILD HYGIENE:

Visits to new cases	794
Visits to old cases	7,133
	7,927

Included are:

Wrong addresses	52
Not seen *	663
	715
Absent visits	715

COMMUNICABLE DISEASES:

Visits to new cases	431
Visits to old cases	1,201
	1,632

Included are:

Wrong addresses	8
Not seen *	63
	71
Absent visits	71

TUBERCULOSIS:

Visits to new cases	142
Visits to old cases	4,097
	4,239

Included are:

Wrong addresses	17
* Not seen *	313
	330
Absent visits	330
Positive cases visited	1,884
Contact cases visited	1,626
Suspect cases visited	399
	4,239

MISCELLANEOUS VISITS:

Maternal death investigations	1
Patients accompanied to hospital	2
Visits to day nurseries	11
Nutrition visits	2
Other special visits	1
	17
	13,815

	Hrs.	Mins.
Hours in station by nurses	2,743	50
Hours at baby and preschool conference	1,704	20
Hours at tuberculosis clinic	573	20
	5,021	30

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, AUGUST, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING AUGUST,
1931, WITH COMPARATIVE FIGURES FOR AUGUST, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	761	773	—12	11.63	11.86	— .23
Nonresidents deducted.....	595	616	—21	9.09	9.45	— .36
BY AGE:						
Under one year.....	75	91	—16	1.15	1.40	— .25
One year to four years, inclusive.....	35	26	+9	.53	.40	+ .07
Sixty years and over.....	314	320	—6	4.80	4.91	— .11
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,212	1,286	—74	18.52	19.73	—1.21
b. Registered stillbirths.....	45	26	+19	.69	.40	+ .29
Stillbirths per 1,000 live births and stillbirths.....	—	—	—	35.80	19.82	+15.98
c. Deaths of mothers from causes incident to childbirth.....	10	8	+2	.15	.12	+ .03
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	7.95	6.10	+1.85
d. Deaths in first year per 1,000 live births..	—	—	—	61.88	70.76	—8.88
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	39	32	+7	59.6	49.1	+10.5
Homicides.....	4	4	—	6.1	6.1	—
Suicides.....	4	13	—9	6.1	19.9	—13.8
Automobile accidents * (death in Boston)...	11	10	+1	16.8	15.3	+1.5
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	15	6	+9	22.9	9.2	+13.7
Broncho-pneumonia.....	27	33	—6	41.2	50.6	—9.4
Cancer.....	95	116	—21	145.2	178.0	—32.8
Cirrhosis of the liver.....	7	7	—	10.7	10.7	—
Diabetes mellitus.....	17	19	—2	26.0	29.1	—3.1
Diarrhea and enteritis (under two years)....	15	24	—9	22.9	36.8	—13.9
DEGENERATIVE DISEASES, SO CALLED:						
Arteriosclerosis.....	16	22	—6	24.4	33.7	—9.3
Cerebral hemorrhage.....	44	37	+7	67.2	56.8	+10.4
Heart disease.....	148	133	+15	226.1	204.1	+22.0
Nephritis, chronic.....	47	49	—2	71.8	75.2	— .34

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING AUGUST,
1931, WITH COMPARATIVE FIGURES FOR AUGUST, 1931.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. 156	48	+108	238.4	73.6	+164.8
	Deaths.. 16	5	+11	24.4	7.7	+16.7
Cerebrospinal meningitis.....	Cases.. 4	5	—1	6.1	7.7	—1.6
	Deaths.. 1	2	—1	1.5	3.1	—1.6
Diphtheria.....	Cases.. 69	41	+28	105.4	62.9	+42.5
	Deaths.. 2	1	+1	3.0	1.5	+1.5
Influenza.....	Cases.. 2	5	—3	3.0	7.7	—4.7
	Deaths.. 1	—	+1	1.5	—	+1.5
Measles.....	Cases.. 20	86	—66	30.6	132.0	—101.4
	Deaths.. —	—	—	—	—	—
Pneumonia (lobar).....	Cases.. 32	29	+3	48.9	44.5	+4.4
	Deaths.. 10	14	—4	15.3	21.5	—6.2
Scarlet fever.....	Cases.. 50	46	+4	76.4	70.6	+5.8
	Deaths.. 3	1	+2	4.6	1.5	+3.1
Tuberculosis (pulmonary).....	Cases.. 103	111	—8	157.4	170.3	—12.9
	Deaths.. 38	50	—12	58.1	76.7	—18.6
Tuberculosis (other forms).....	Cases.. 22	21	+1	33.6	32.2	+1.4
	Deaths.. 5	7	—2	7.6	10.7	—3.1
Typhoid fever.....	Cases.. 8	9	—1	12.2	13.8	—1.6
	Deaths.. —	—	—	—	—	—
Whooping cough.....	Cases.. 123	188	—65	187.9	288.5	—100.6
	Deaths.. —	7	—7	—	10.7	—10.7

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

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MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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NO. 10

ACUTE ANTERIOR POLIOMYELITIS.

INFANTILE PARALYSIS.

From the dawn of history there is a record of the contention of mankind with deadly plagues. We read a story of death and suffering from a certain epidemic in the annals of one century and are told about the ravages of some other in the next. As the panic which one disease thus created is forgotten another has come forward to demonstrate its power to destroy. The discovery of bacteria enabled man to shape new weapons in his fight for life and health, but other factors in the causation of disease still remain unknown. Something more is needed than the mere presence of bacteria of pathogenic possibilities to make them deadly.

A century and a half ago most of the living population of the civilized world bore the scars of their struggle with smallpox. Many failed to win the fight and show their scars. Because of neglect to vaccinate smallpox still prevails, but its character has undergone a change. Although outbreaks of the old-time type of smallpox are occasionally seen today it rarely manifests the power to disfigure or to kill.

About a century ago diphtheria and scarlet fever appeared in this country in epidemic form and proceeded to take frightful toll in childhood life. While diseases still to be dreaded, their total mor-

tality has dwindled to a small percentage of what it formerly was. Before the discoveries which have put the control of diphtheria in our hands the average annual deaths from both diseases was already well started on the downward course.

Within the present century two ancient epidemic scourges, Asiatic cholera and the bubonic plague, have again broken loose from their Eastern habitats and started around the world. They have overcome the obstacles which modern knowledge of the manner of their spread has interposed to prevent their progress, but for reasons which we yet fail to understand no epidemics have developed in places where we expected them to rage.

When pathogenic bacteria are propagated in laboratory animals which exhibit slight resistance to their harmful action these organisms acquire added power to destroy, but as yet we know little of the ultimate nature of the environmental factors which serve either to increase or decrease the dangerous character of the potential agents of disease.

Be it by reason of changing conditions in the outside world or something which human habits have produced within the bodies of men themselves, diseases now, as in ages past, may still acquire added power to do harm as well as lose that which they once possessed.

Four examples may be cited of diseases which within the present century have thus increased their power to destroy and have assumed an epidemic character well calculated to inspire dread. As it has happened or perhaps for reasons we do not understand three of these new epidemic menaces to public health attack the central nervous system.

Cerebrospinal meningitis is no recent arrival either in America or in Europe. Cases have been recognized in both hemispheres as far back as medical history goes. From time to time also local epidemics in an institution or in barracks were known to occur. Early in the present century, meningococcus meningitis began to act as never before. It appeared in successive epidemic waves which swept around the world from east to west. It claimed its victims by wholesale in every age and social caste. Some regions suffered more than others but everywhere in the temperate zones the new serious epidemic character of the disease was seen.

Like cerebrospinal meningitis, acute anterior poliomyelitis is nothing new. Its paralytic results have been pictured in human figures since most ancient times. It seems safe to say that acute anterior poliomyelitis was occasionally accountable for disabled hands and feet in American towns in old colonial times. Until recently, however, paralysis has occurred too infrequently in the young to arouse suspicion of an infectious cause.

In the brief mention which the disease received in medical text-books a few generations ago may be found the statement that there was usually a history of a fall. Among the first suggestions of its infectious character was a reported "epidemic" of twenty-nine cases in Stockholm, Sweden, in August and September about fifty years ago. The occurrence of two cases in the same family was noted as significant.

Like cerebrospinal meningitis, about the beginning of the present century "infantile paralysis" assumed a new character. The attention of the medical world was first drawn to the wholesale occurrence of paralytic cases in Sweden. A few years later it had assumed a definite epidemic character in this country and people of every age, as well as children, were being paralyzed. Like meningococcus meningitis, paralytic manifestations of anterior poliomyelitis have swept the world in epidemic waves from east to west. The region about New York City has been hard hit. A serious epidemic occurred there in 1909 and in 1916, the worst as regards paralytic cases and mortality that the world has ever known. This year also the disease has again prevailed in the same region. Although definite local epidemics have occurred in Boston, we have thus far suffered relatively less than other places in the state.

As far back as the Middle Ages, at least, it would appear that every generation in the world population has had to contend with an influenza epidemic. The mortality has varied in different epidemics. Probably in most the death rate has been small. This was true of the earlier epidemics in this country in the nineteenth century. In the 1889-90 epidemic, however, the disease assumed a dangerous character, and in 1918 it was responsible for a greater loss of life than any calamity that has ever occurred in human history.

Influenza of itself seldom kills. Deaths are due to pneumonia, which is directly caused by organisms constantly present in the mouths and throats of a varying proportion of the world's population and which under favorable conditions are capable of producing pneumonia. Something has happened either to make these organisms more common or to make their combination with the causative agent of influenza more dangerous than it used to be.

The influenza was followed by the East to West spread of encephalitis lethargica about the world. Unlike the other diseases just mentioned, encephalitis lethargica was an unfamiliar disease but medical history would indicate that it has followed some epidemics of influenza in the past. Although its mortality does not figure prominently in official statistics definite epidemics have

occurred both in Europe and North America and the consequences of an attack are worse than death.

Of these twentieth century epidemic scourges poliomyelitis, or infantile paralysis, is the one which has most recently aroused public interest. The victims of a seasonal epidemic in this country this year will total the number of a good-sized army and people have again been appealing to us as public health officials to advise them how they or their children may prevent or evade the danger of being killed or crippled.

The information which we have given regarding the symptoms and treatment of poliomyelitis have undoubtedly been helpful but so far as the prevention of poliomyelitis is concerned there is no evidence that the admonitions which it is customary for us to pass on to the public have been of any practical value.

Our knowledge of the causation of poliomyelitis is in an unsatisfactory state and current advice regarding the prevention of this crippling affliction virtually represents the teachings of those who have the assurance to teach.

We are taught that the *poliomyelitis*, that is, the destructive involvement of the nervous system, is an exceptional complication of what is really a very common infection, exposure to which usually results in some brief indefinite symptoms of sickness and a permanent immunity to further attacks. It is thus that most people acquire a specific immunity, as they do to measles, before they reach adult life. The destructive involvement of the nervous system may be due to some peculiarity, temporary or constitutional, on the part of the individual, or to accidental factors or to such influences as that of hot weather upon the protective mechanism of the individual against infections generally.

The foregoing conception of the nature of the disease serves to explain its various manifestations with a greater or less degree of plausibility. That poliomyelitis is the result of an infection which may not go on to a destruction of nerve cells and consequent paralysis would seem to be reasonably well established. Even the belief that a similarity in physical type is to be seen among the paralytic victims of the disease cannot be dismissed as pure imagination. Perhaps, however, some time in the future it may prove to have been wiser if we keep a mind open to other explanations of any and all of the matters mentioned in the foregoing.

Recent official experiences emphasize the need of tempering such mental receptiveness with caution. The presumption that the paralysis is an exceptional complication of a common infection is stimulating efforts to diagnose nonparalytic or "abortive" cases. The result is the piling up of misleading statistics. Unmistakable

involvement of the meninges or central nervous system — even convulsions — are common accompaniments of acute infections or toxic conditions in the young. Mistakes in diagnosis are not always attributable to lack of experience or carelessness. An eminent pediatrician, justly esteemed in his own country and abroad for his professional attainments, has reported as a case of encephalitis lethargica a condition which proved to be due to the toxemia of the prodromal stage of a severe case of chicken pox. No one should be overawed by a man with a microscope. An increase in white blood cells, general or local, and increased tension within an organ result from many different causes. They are evidences of a defense reaction of the body. A discovery of a local serous exudate and increased polynuclear cells or lymphocytes, is indication of local damage, be it of traumatic or infectious character, and is not proof of the existence of any specific disease.

Some investigators have recently claimed that a general enlargement of lymphatic glands, or adenitis, is characteristic of poliomyelitis and precedes the nervous symptoms and the spinal findings. In the interest of diagnosis it is to be hoped that this may prove to be so.

More recent discoveries regarding the complexity of the protective mechanism of the body against infections suggest that the assumption of an almost universal exposure to the infection of poliomyelitis early in life resulting in most instances in the development of a specific immunity thereto, may be unnecessary to account for the apparent immunity of most adults to the disease. Specific immunity is now always necessary for successful defence against an infection.

Another matter also suggests itself for consideration. A virus is evidently involved in the causation of poliomyelitis. We have learned enough about viruses to know that our knowledge regarding them is deficient in some very important particulars. To give two illustrations:

Investigators were somewhat disconcerted by the apparent discovery that encephalitis lethargica, another twentieth century virus disease, might be produced experimentally with material taken from a herpes or "cold sore" vesicle and while further study gave another aspect to this matter there is nevertheless an apparent relation between herpes and encephalitis lethargica that has never been plausibly explained. The recent troublesome appearance of encephalitis following vaccination presents a somewhat similar puzzle.

It has recently been suggested by investigators whose reputation as "scientists" entitles their opinions to consideration that a so-called disease virus is only capable of doing harm when acting in conjunction with certain bacteria. Should this prove to be so, the conception as to the nature and causation of poliomyelitis referred to above will doubtless be subject to important revision.

We are taught by those who presume to teach that poliomyelitis is transmitted by "contact," presumably just as measles is spread and that it is spread not only by the sick or those about to be sick but, like epidemic cerebrospinal meningitis which also attacks the nervous system, by healthy persons who "carry" the infective agent in their nasal or upper respiratory secretions.

If epidemics of poliomyelitis are due to the scattering of nasal secretion about, as epidemics of measles and of meningococcus meningitis are caused, then poliomyelitis certainly behaves very differently in its epidemic manifestations from any disease which is actually known to be spread in this way.

It is axiomatic that the danger of the spread of any contact disease is directly proportional to the amount of infective material which the sick or "carriers" are scattering about in their community. The shutting of windows, the cool autumn days and the confinement of people in an indoors irritating atmosphere, even the cool autumn air itself, stimulates the flow of the secretions of the upper respiratory tract. An epidemic of colds has been shown by the United States Public Health Service to occur regularly in this country every autumn. The experience of municipal health departments shows that as autumn goes on the incidence of other contact diseases, beginning with diphtheria, steadily rises. The warmer the early autumn, the slower the rise. Taken as a whole, endemic communicable diseases reach their maximum in March, at about the same time as the "carriers" of the recognizable infective agents of transmissible diseases like streptococci and pneumococci attain their highest proportion in the community. On the contrary, epidemics of poliomyelitis begin in the early summer when such contact diseases as measles, scarlet fever and spinal meningitis have ceased to develop in the community. Poliomyelitis epidemics reach their maximum in the community at the season of the year when nasal secretions are practically dried up so far as external visible signs of their existence are concerned. Poliomyelitis epidemics abruptly disappear about the middle of October, at the very time when a large proportion of the population are coughing, sneezing, and running at their noses and contact diseases generally have started on their annual rise.

Like poliomyelitis, meningococcus meningitis, or epidemic cerebrospinal meningitis, attacks the nervous system. Like poliomyelitis, most people show an apparent immunity to its attacks. Like poliomyelitis, more than one victim is seldom to be found in a family.

The infective agent of meningococcus meningitis is recognizable and in epidemics the number of healthy carriers is high, a situation which is assumed to exist in times of epidemics with respect to carriers of the infective agent of poliomyelitis. Nevertheless in its epidemiology, meningococcus meningitis behaves like any other contact disease. Epidemics occur in the winter and spring when other contact diseases prevail. Uncontrollable epidemics have occurred in institutions, in barracks and on ship board. A recognizable contagious manifestation of poliomyelitis under similar crowded conditions is unknown. In the 1916 poliomyelitis epidemic in New York City, infants and children were constantly being admitted to institutions in the incubation stage of the disease but not a single secondary case was known to develop from a case thus admitted. No cases occurred among the physicians or nurses of the hospitals where cases of the disease were treated but the fatalities among policemen were a matter of comment. So far as known, no cases of poliomyelitis have ever occurred in an institution in Boston possibly attributable to infection within the institution.

Any transmissible disease may be spread in different ways. Some unusual method of transmission should not be assumed to be the cause of epidemics. The cause of outbreaks of typhoid fever has ranged from flies to macaroni pudding prepared by a carrier. Flies, as officially decided, were doubtless chiefly responsible for the typhoid epidemic at Chicamauga during the Spanish War, but even flies need some unusual combination of conditions to maintain an epidemic. Recent laboratory casualties have shown the old discredited idea of the direct infectivity of bodily secretions in yellow fever to be correct after all, but mosquitoes are necessary for an epidemic. Bubonic plague is transmissible by direct contact with the sick. Under exceptional conditions of living the plague may take a pneumonic form with 100 per cent mortality, but as a matter of fact this seldom happens and infected rat fleas are usually needed to maintain an epidemic.

In a certain stage of poliomyelitis, the nasal secretion is capable of transmitting the disease experimentally. In laboratory experiments poliomyelitis may be transmitted from monkey to monkey by material from a sick monkey's nose and it is not necessary to try out a thousand monkeys to find one which will develop paralysis. In the laboratory, also, yellow fever may be transmitted from monkey

to monkey, or from mouse to mouse, by material taken from an infected animal. Moreover, evidence of the infectivity of the nasal secretion in poliomyelitis does not rest entirely on laboratory experiments. Some cases are reported, surprisingly few in number in view of the efforts which have been made to discover or imagine them, in which it is probable that a human being has been directly infected by the nasal discharges of another. It is conceivable that the occasional cases of poliomyelitis reported in the winter when contact diseases generally are at their maximum may be caused in this way. It is even imaginable that personal contact in especially favorable crowded living conditions might give rise to a definite poliomyelitis outbreak in cold weather, nevertheless the epidemics as we have been seeing them in this country for the last twenty years exhibit none of the epidemiological features of a disease spread by direct human contact. It is probably good advice to recommend the avoidance of close personal contacts when poliomyelitis prevails but there is evidently some greater danger against which protection is needed.

That the onset of a case of poliomyelitis presents the symptoms of a digestive upset is to be regarded as of no significance so far as indicating the manner of infection. Scarlet fever and other severe infections from very different causes begin with similar digestive symptoms. There is, however, some evidence that the digestive tract may be a channel of infection. It has been repeatedly observed that several children in a family have been simultaneously stricken with the same symptoms of a digestive upset and perhaps one has subsequently developed paralysis. Nearly eighty boys in a camp were similarly affected one evening and four or five went on to paralysis. In such instances certainly poliomyelitis acts like a food poisoning and not a contact disease.

It is not to be expected that the virus of a "virus disease" will be localized in a single organ. Moreover, there appears to be just as good experimental evidence that intestinal secretions in poliomyelitis may be infective as the nasal secretions.

Apparently there is just as much reason for assuming that poliomyelitis is spread like typhoid fever by intestinal discharges as by nasal secretions like measles. Two and perhaps more outbreaks of poliomyelitis have been traced to milk presumably contaminated by persons who have had poliomyelitis. In contrast, however, to the frequent evidence of the infection of food by typhoid cases or carriers the instances in which a diligent search and a receptive imagination have succeeded in showing a possible connection between an outbreak of poliomyelitis and human contamination of food have been astonishingly few. As matters now stand, it

would seem that intestinal secretions like nasal secretions might account for occasional cases or even localized outbreaks of poliomyelitis but not for the epidemic manifestations of the disease seen this year in this country.

The seasonal incidence and abrupt cessation of our epidemics of poliomyelitis in October are as distinctive as in our old time epidemics of yellow fever. The recently discovered evidence that hot weather lowers resistance to infection through the digestive tract as well as favors bacterial growths in food cannot be dismissed as wholly without significance in accounting for a destructive infection of the nervous system. Circumstantial evidence, however, indicates that increased vulnerability of the nervous system due to heat plays a secondary role, if any at all, in our epidemics of poliomyelitis. Infantile paralysis is not a tropical disease. Poliomyelitis is not an epidemic disease of city slums but of suburban districts, even when credited to an urban population. The crowded New York East Side has been comparatively free from cases when its dispensaries have been crowded with children whose digestive apparatus has succumbed to the stifling heat and rotten food. At the same time, in the suburban South Shore of Staten Island where the Manhattan dispensaries are accustomed to send their most intractable enteritis cases to recuperate in hot weather, terrifying local epidemics of poliomyelitis have occurred in the temporary summer population.

Like our old yellow fever epidemics our poliomyelitis epidemics coincide with the annual period of activity of insect life. It was noted long ago that infantile paralysis cases were likely to occur where local conditions favor insect life. Some of our modern epidemics have clearly started with a local occurrence of multiple cases where such conditions have obtained. At least two of the New York epidemics have started at the head of the Gowanus Canal in Brooklyn. Boston epidemics have shown their beginnings at the Neponset river on the south and at Orient Heights on the east. The 1916 New York epidemic worked its way into Manhattan over the Williamsburg Bridge and afterwards out into New Jersey along routes of travel. Similarly in Boston there have been definite indications of the gradual spread of reported cases into the city in linear directions roughly corresponding to railroad and street car routes. This has been taken as evidence of direct contact infection in public conveyances but cases occur along such routes in families which have not been patrons of these conveyances and it would seem just as reasonable to assume that public conveyances may serve to distribute some insect vector of the disease.

It was once thought from certain circumstantial evidence that the so-called stable fly might be responsible for poliomyelitis. In one or two instances in laboratory experiments monkeys exposed to flies which were allowed to bite sick monkeys developed poliomyelitis but the conditions of the experiments made it doubtful what part, if any, the flies played in transmitting the disease and further similar experiments were unsuccessful. The little fruit flies have also been suspected to have something to do with poliomyelitis epidemics.

The contamination of food by insects through their transference of the infective agent in intestinal discharges appears to have been given little or no consideration as a possible factor in the maintenance of epidemics of poliomyelitis.

There is another aspect of poliomyelitis which makes attractive the hypothesis that insects play a part in epidemics. We are not only lacking a satisfactory explanation of the manner of the transmission of poliomyelitis, but we need to know why what was formerly an occasional affection suddenly assumed a serious epidemic character. Insects serve to supply hypotheses to account for both.

A few decades ago a disease, commonly known as the African sleeping sickness, which previously had been occasionally seen, rapidly assumed an epidemic form that threatened to depopulate Central Africa. Infection was found to come from a certain kind of fly and the chief danger was not from sick human beings but from reservoirs of infection in animals. The infective agent in this instance was a blood parasite, of a family, some species of which infest the blood of animals without apparent harm.

In human epidemics of bubonic plague we have an instance of what is primarily an epidemic rat disease, transmissible to man by rat fleas. The mortality in rats is low as compared with human mortality. The infective agent in this instance is a bacillus to be found in the feces of a flea which has fed on a sick rat. It has been contended by at least one investigator that there is an animal reservoir of poliomyelitis in rats and like the plague and as recently discovered, typhus fever, is transmitted by rat fleas.

It has been found that the maintenance of tropical malaria and of the African yellow fever is likewise dependent upon reservoirs of infection in animals. The infective agent in malaria is a parasite which undergoes developmental stages in a mosquito. The infective agent of yellow fever is a virus as in poliomyelitis. We have in yellow fever an example of a virus being transmitted unchanged by an insect, for while a mosquito which has acquired this virus does not become infective through its sting until about twelve days later, the virus apparently does not undergo any change in the mosquito's body.

Insects have also been thought to offer a possible explanation of the double mystery of poliomyelitis in a somewhat different way. Certain animal and human diseases are spread by insects which appear, after acquiring the infective agent of the disease, to transmit through their ova the infective power to their progeny. Thus as in the case of the mountain tick fever a reservoir of infection is built up in the insects themselves. An analogy has been thought to be found between poliomyelitis and a paralytic infection in fowls attributed to eating the infective ova of a certain fly. It has been inferred that human poliomyelitis might similarly be acquired by eating food contaminated by the infective larvæ of some insect.

Insect hypotheses to account for the epidemic spread of poliomyelitis epidemics were once the vogue. Now a health official who cares for his reputation never mentions insects in connection with the disease. The insect ideas have been so thoroughly discredited as to suggest a desire to discredit them which if otherwise directed might have discovered in them some germ of truth.

The old time empirical quarantine procedure to prevent the spread of yellow fever was usually successful even though based on a false hypothesis. The approved methods recommended for the control of poliomyelitis epidemics have served only to add to public distress. Progress has been made in the diagnosis and treatment of cases but the indications of the discovery of a way to lessen their numbers are not encouraging. The manner of the epidemic transmission of yellow fever was successfully demonstrated by a combination of military authority and good luck. The cause of epidemic manifestations of poliomyelitis presents greater difficulty, because, as appears, the persons who do not possess a natural immunity to the virus are relatively few.

Studies of the epidemiology of poliomyelitis have not always tended to inspire confidence. The authoritative finding of the official board which investigated the 1916 New York epidemic was that the disease was spread by personal contact. It would not have been difficult to have found support for such a finding, but the observations actually cited for this purpose led logically to a different conclusion. Probably more often, however, the conclusions of such studies have been logical, but based on false premises, a misapprehension of facts.

Those who have undertaken the study of epidemics have often been unconsciously influenced by preconceived ideas, by undue reverence for the shaky tenets of bacteriology and by the desire to acquire or retain a personal reputation for "good judgment." All these factors have been apparent in the studies of three city

epidemics which the writer has endeavored to supervise, two of which have covered epidemics from their very incipency.

When a person is being interrogated regarding matters of which he may have no knowledge or be in doubt, questions suggest their answers. It sometimes happens that when two hospital physicians go separately to get what would appear to be a simple clinical history they return with stories so different that the case could not be recognized except from the case number or the name.

It is likely to be more productive of misleading records when two investigators with different "hunches" regarding the etiology of infantile paralysis are sent to a house where a case has occurred with a view to obtaining information to help to solve the mystery of its epidemic spread.

PROTECTION AGAINST DISEASE.

If your suspicion is aroused concerning the possibility of contagious disease your first duty is to summon a physician, not only to protect yourself but to safeguard the public at large. If individuals would cooperate more closely with their local health officials by securing compliance with their special regulations, less disease and misery would exist.

SUMMARY OF WORK, SEPTEMBER, 1931.

ADMINISTRATION DIVISION.

Legal notices	126	Personnel:	
Prosecutions	16	Trips out of town	1
Hearings	4	Temporary appointments	2
Settlements:		Permanent appointments	2
Total cases	155	Resignation	1
Notices	123	Promotion	1
Bills	32		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,223	Beverages	3
Denatured alcohol approved	17	Milk licenses approved	74
Hen licenses approved	11	Pedlers' licenses approved	81
Massage-manicure approved	162	Pedlers' certificates	7
Ice cream dealers approved	57	Undertakers (new license)	2
Ice cream manufacturers approved	1		

MEDICAL DIVISION.

Reported cases	979	Visits:	
Nonresidents	178	By V. D. investigator	457
Deaths investigated	45	By medical inspectors to cases of communicable disease	230

LABORATORY DIVISION.

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF SEPTEMBER, 1931.

DIPHTHERIA:		
Positive for diagnosis	29	
Positive for release	80	
Negative for diagnosis	342	
Negative for release	72	
No growth cultures	28	
	—	551
GONORRHEAL OPTHALMIA:		
Negative	47	
	—	47
GONORRHEAL URETHRITIS:		
Positive	679	
Negative	232	
Unsatisfactory	1	
	—	912
GENITO URINARY TUBERCULOSIS:		
Negative		2
MALARIA:		
Negative		1
MISCELLANEOUS EXAMINATION:*		
Positive	10	
Negative	51	
Unclassified	209	
Unsatisfactory	3	
	—	273
TUBERCULOSIS:		
Positive	263	
Negative	67	
Unsatisfactory	4	
	—	334
TYPHOID:		
Negative		42
SYPHILIS:		
Positive	93	
Negative	987	
Unsatisfactory	19	
Doubtful	30	
	—	1,129
Bacteriological milk examinations		530
Bacteriological ice cream examinations		63
Total		<u>3,886</u>
Swimming pools examined		64
Extra waters examined		9

* Unit urines, 209; Vincent's angina, 12; virulence, 5; feces for eberthella typhi, 9; urine for eberthella typhi, 9; tonic for B. coli, 23; feces for amebic dysentery, 1; peanuts for worms, 1; cream puff for B. coli, 1; tea for foreign material and mold, 1; mackerel for B. coli, 1; chicken for B. coli, 1.

FOOD DIVISION. (MILK INSPECTION.)

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during September, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.*	12.64	4.07	21,000
Antetomasso, Peter	12.35	3.85	12,000
Buxton, William E.*	14.36	5.00	11,000
Casey, James D.	12.57	3.88	24,000
Cashin, J. F., & Co.*	12.56	3.89	17,000
Cedar Hill Farm, Inc.*	12.76	3.90	450
Chapin, George L.	12.88	4.10	10,000
Clark, Levi	12.20	3.68	27,000
Corkery, John J.	12.83	3.95	24,000
Cosgrove, Martin S.	12.48	3.90	25,000
Daley, John	12.38	3.70	600
Dean, Louis W.*	13.84	4.75	15,000
Deerfoot Farm Company*	12.81	4.07	11,000
Denehy, Timothy	12.64	3.90	22,000
Driscoll, William B., Company	12.40	3.80	11,000
Elm Spring Farm Company*	12.82	4.15	28,000
Ferguson, Malcolm D.	12.52	3.79	36,000
Garfield, Mason*	14.81	5.70	500
Garvin, Charles	13.09	4.50	45,000
Giroux, J. E. & H. J.	12.61	3.95	26,000
Griffin, Joseph L.	13.09	4.28	14,000
Gushee, Chester W.	12.98	4.15	32,000
Hampton Creamery Company	12.62	3.87	62,000
Herlihy Brothers, Inc.	12.52	3.85	18,000
Hickey, J. B.	12.30	3.98	9,000
Holden, John E.	12.37	3.80	11,000
Hood, H. P., & Sons, Inc.	12.48	3.95	19,000
Hutchinson, Frank T.	12.57	4.15	9,000
Jones, William T., Company	12.34	3.83	18,000
Kendall Brothers	12.55	3.82	32,000
Kingston Brothers	12.79	4.00	35,000
Knapp, George J.*	12.32	3.82	37,000
Lang Brothers	12.40	3.86	11,000
Larson, Charles*	12.42	3.80	19,000
Lyndonville Creamery Association	12.82	4.08	54,000
Manning, Harriet	12.77	4.15	54,000
McAdams, J. F., & Brothers, Inc.	12.99	4.16	11,000
McKernan, John	12.35	3.70	11,000
New England Creamery Products Company*	12.70	4.05	20,000
Prescott, J. B., & Co.	12.78	4.25	57,000
Robinson, A. J.*	12.90	4.10	31,000

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Schuster, Adam *	12.92	4.17	35,000
Seven Oaks Dairy Company.	12.45	3.81	8,000
Shawsheen Dairy, Inc.	12.18	3.70	13,000
Shick, Jacob.	12.43	3.70	13,000
Somerset Farm Creamery Company.	13.28	4.65	14,000
Sterling Farm Milk Company.	12.49	3.83	12,000
Stone, H. L.	12.55	3.83	19,000
Stuart, W. E., Company.	12.54	3.97	30,000
Tufts Brothers.	12.71	3.93	100
Turner Centre System.	12.40	3.89	8,000
United Farmers Co-operative Creamery Association, Inc.	12.65	4.08	10,000
Walker-Gordon Laboratory Company * †	12.63	4.05	100
Warren, Isaac F.	13.23	4.45	10,000
Weiler, E., & Sons *	12.72	4.12	25,000
Westwood Farm Milk Company.	12.39	3.87	29,000
White Brothers.	12.59	3.87	16,000
Whiting Milk Companies.	12.47	3.74	14,000
Whittemore, W. D. *	12.48	3.87	40,000
Wiswall, Granville A.	12.40	3.90	15,000
Woodland, Charles L. *	12.79	4.10	14,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc.	12.53	3.87	13,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.	12.63	3.95	9,000
First National Stores, Inc.	Bellows Falls Cooperative Creamery Association.	12.42	4.00	7,000
Friend Brothers.	Hood, H. P., & Sons, Inc.	12.53	3.88	13,000
Gray-United Stores, Inc.	Turner Centre System, Inc.	12.47	3.83	14,000
Morgan Brothers Company.	New England Creamery Products Company and United Farmers Cooperative Creamery Association, Inc.	12.85	4.08	18,000
H. Winer Company.	Whiting Milk Companies.	12.63	3.82	8,000
M. Winer Company.	M. Winer Company.	13.03	4.15	33,000

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.....	Own *.....	13.71	4.50	1,100
Turner Centre System.....	Alta Crest *.....	13.07	3.90	1,200
Walker-Gordon Laboratory Company.	Own *.....	12.92	4.15	1,700
Whiting Milk Companies.....	Hampshire Hills.....	12.68	3.80	1,100

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.....	Own *.....	13.72	4.30	50
Whiting Milk Companies.....	Hampshire Hills.....	12.74	3.80	50

* All cows tested and reported free from infectious abortion.

GRADE A MILK—PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.31	4.60	8,000
Cashin, J. F., & Co. *	12.97	4.50	11,000
Corkery, John J.....	13.29	4.43	26,000
Cosgrove, Martin S.....	13.09	4.35	31,000
Dean, Louis W. *	13.84	4.55	9,000
Elm Spring Farm Company *	13.23	4.50	19,000
Griffin, Joseph L.....	13.41	4.30	8,000
Herlihy Brothers, Inc.....	12.68	4.30	6,000
Hood, H. P., & Sons, Inc. *	12.50	4.14	8,000
Jones, William T., Company.....	13.17	4.50	9,000
Lyndonville Creamery Association.	13.37	4.30	9,000
McAdams, J. F., & Brothers, Inc.....	13.24	4.60	7,000
New England Creamery Products Company *	13.30	4.43	6,000
Robinson, A. J. *	13.17	4.33	20,000
Seven Oaks Dairy Company.....	13.14	4.30	8,000
Shawsheen Dairy, Inc.....	13.45	4.30	5,000
Sterling Farm Milk Company.....	12.78	4.07	8,000
Turner Centre System *	12.61	4.10	5,000
White Brothers *	13.24	4.50	7,000
Whiting Milk Companies *	12.54	4.10	7,000
Woodland, Charles L. *	13.65	4.80	6,000

*All milk from cows tuberculin tested within one year under state and federal supervision.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	326
Milk from stores	951
Miscellaneous	8
Ice cream	4
Vinegar	6
Samples referred to Bacteriological Laboratory for examination:	
Milk	530
Ice cream	63
Court cases	26
Fines	\$380

DAIRY DIVISION.

Total services	2,062	Total cattle inspected	12,417
Dairies inspected	802	Inspection of milk plants and	
Scoring above 50 *	626	licensed dealers	143
Scoring below	176	Country creamery inspections	37
With milk rooms	727	Sediment tests	578
Without milk rooms	751	Bacteriological examinations	451
Inactive	44		

* Passable mark.

FOOD INSPECTION DIVISION.

SEPTEMBER, 1931.

District inspections	2,896
Reinspections	161
Market inspections	1,346
Terminal inspections	606
Vehicle inspections *	3,227
Stand inspections	755
Complaints	44
Notices served	75
Hours on special duty	108
Samples taken	22
Condemnations	148
Pedlers' licenses certified	81
Pedlers' vehicles approved	874
Numbers assigned	96

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	3,026	Parts condemned	861
Calves inspected	3,696	Animals condemned	32
Swine inspected	3,726	Total of meat condemnations	
Sheep inspected	488	(pounds)	15,403

SANITARY DIVISION.

Original inspections	2,339	Complaints investigated	650
Causes for action found	1,554	Nuisances abated	1,494
Reinspections	5,082	Routine inspections	2,137
Legal notices served	110		

TUBERCULOSIS DIVISION.

In the month of September there were eighty-five day clinic sessions and thirty-eight evening clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	12	128	123	251	3	11	1	12
East Boston.....	9	35	103	138	5	6	—	6
North End.....	7	23	40	63	5	3	—	3
West End.....	9	28	76	104	3	8	—	8
South Boston.....	7	42	71	113	5	11	5	16
Boston Dispensary.....	8	34	21	55	—	—	—	—
Brighton.....	5	14	25	39	3	6	1	7
Charlestown.....	4	32	100	132	5	8	3	11
Codman square.....	9	79	123	202	5	14	2	16
Hyde Park.....	5	47	59	106	4	12	—	12
Arcadia street.....	5	19	44	63	—	—	—	—
Roxbury.....	5	57	108	165	—	—	—	—
Totals.....	85	538	893	1,431	38	79	12	91

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	33	25	58	1	1	2
East Boston.....	6	15	21	—	—	—
North End.....	—	—	—	—	—	—
West End.....	3	8	11	1	—	1
South Boston.....	6	20	26	3	—	3
Boston Dispensary.....	7	—	7	—	—	—
Brighton.....	4	6	10	2	1	3
Charlestown.....	8	19	27	1	—	1
Codman square.....	14	17	31	3	—	3
Hyde Park.....	11	10	21	3	—	3
Arcadia street.....	1	4	5	—	—	—
Roxbury.....	7	18	25	—	—	—
Totals.....	100	142	242	14	2	16

DISTRICTS.	DAY CLINIC.				NIGHT CLINIC.				
	VON PIRQUET.		Wasser-mann.	Lamp.	VON PIRQUET.		Wasser-mann.	Lamp.	X-Ray Reports.
	V. P.	V. P. Tests.			V. P.	V. P. Tests.			
South End.....	28	21	31	91	1	—	1	—	189
East Boston.....	21	12	4	—	—	—	—	—	47
North End.....	12	6	2	—	—	—	—	—	24
West End.....	13	8	4	—	—	—	1	—	28
South Boston.....	25	17	5	4	—	1	2	—	122
Boston Dispensary.....	7	2	3	—	*	*	—	—	—
Brighton.....	10	7	7	—	2	—	1	—	—
Charlestown.....	23	18	8	—	—	—	—	—	46
Codman square.....	26	18	14	—	—	—	2	—	—
Hyde Park.....	14	10	9	—	—	—	3	—	—
Arcadia street.....	5	—	—	—	—	—	—	—	—
Roxbury.....	36	18	10	—	—	—	—	—	85
Totals.....	220	137	97	95	3	1	10	—	541

* No night clinic.

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING SEPTEMBER, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	6	18.75
Seven days or less.....	2	6.25
Eight to fourteen days, inclusive.....	1	3.13
Fifteen to twenty-one days, inclusive.....	1	3.13
Twenty-two to thirty-one days, inclusive.....	—	—
WITHIN FIRST MONTH. (Total).....	10	31.26
Within second month.....	3	9.37
Within third month.....	3	9.37
Within fourth month.....	—	—
Within fifth month.....	3	9.37
Within sixth month.....	—	—
Within seventh month.....	—	—
Within eighth month.....	—	—
Within ninth month.....	—	—
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	19	59.37
Within second year.....	3	9.37
Within third year.....	1	2.13
More than three years.....	9	28.12
Grand totals.....	32	99.99

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF SEPTEMBER, 1931.

PUBLIC SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	9	15	10	20
North Reading State Sanatorium.....	3	4	8	3
Lakeville State Sanatorium.....	2	4	3	4
Rutland State Sanatorium.....	2	3	4	6
Westfield State Sanatorium.....	1	1	1	4
Tewksbury.....	2	—	—	—
Totals.....	19	27	26	37

PRIVATE SANATORIUMS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	1
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	19	—	14	—
Doctor Crane's Sanatorium.....	—	—	—	—
Rutland Prison Camp.....	—	—	—	—
Totals.....	19	—	14	1

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, September, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	261	16	277	47	3	50	5	55
Lincoln street.....	65	2	67	8	—	8	4	17
Charlestown.....	457	121	578	31	2	33	8	72
Codman square.....	651	63	714	68	6	74	8	89
Columbia road.....	356	13	369	48	1	49	8	46
Arcadia street.....	393	10	403	40	10	50	9	45
East Boston.....	387	17	404	50	2	52	7	58
Hyde Park.....	174	37	211	24	2	26	9	23
Jamaica Plain.....	309	107	416	45	—	45	5	83
North End.....	358	153	511	33	3	36	9	57
Roslindale.....	206	23	229	31	1	32	3	76
Roxbury.....	702	47	749	78	10	88	12	62
Children's Hospital.....	107	34	141	16	2	18	5	28
Columbus avenue.....	504	12	516	57	—	57	9	57
South Boston.....	520	133	653	83	30	113	9	73
South End.....	376	22	398	51	3	54	9	44
Tyler street.....	219	36	255	9	5	14	5	51
West End.....	385	102	487	31	—	31	7	70
Totals.....	6,430	948	7,378	750	80	830	131	56

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, SEPTEMBER, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	5	4	5	14	60
Lincoln street.....	—	—	—	—	53
Charlestown.....	2	4	2	8	205
Codman square.....	29	15	8	52	177
Columbia road.....	16	9	9	34	142
Arcadia street.....	6	12	7	25	201
East Boston.....	—	—	—	—	1
Hyde Park.....	12	8	2	22	185
Jamaica Plain.....	7	5	4	16	131
North End.....	—	—	—	—	—
Roslindale.....	1	—	—	1	97
Roxbury.....	—	—	—	—	—
Children's Hospital.....	8	5	4	17	21
Columbus avenue.....	6	8	6	20	264
South Boston.....	5	—	—	5	44
South End.....	2	5	—	7	70
Tyler street.....	7	9	2	18	67
West End.....	—	1	—	1	8
Totals.....	106	85	49	240	1,726

REPORT OF MEDICAL INSPECTORS, SEPTEMBER, 1931.

Physical examinations	268
Schick tests	31
Toxin-antitoxin	496
Vaccinations at units	2,807
Vaccination certificates	1,684
Day nursery visits	16

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, SEPTEMBER, 1931.

UNIT.	Number of Patients.	Number of Operations.
West End.....	414	814
North End.....	352	666
South End.....	449	1,268
East Boston.....	440	1,067
South Boston.....	718	1,339
Roxbury.....	349	474
Charlestown.....	533	933
	3,255	6,561

COOPERATIVE HEALTH UNIT REPORT, SEPTEMBER, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physicians	74				72		57	203
HULL STREET DISPENSARY:								
Calls by district physicians			47					47
BOSTON LYING-IN HOSPITAL:								
Prenatal Clinics.....	4	3	5	3	4	4	4	27
Attendance.....	14	55	50	16	57	26	46	264
New cases.....	1	15	4	1	13	9	11	54
FAMILY WELFARE SOCIETY:								
Staff meetings.....	3	5						8
Attendance.....	18	48						66
CHILDREN'S HOSPITAL:								
Infantile clinics.....	4	3			4			11
Attendance.....	32	16			70			118
STATE DEPARTMENT MENTAL DISEASES:								
Clinics.....							1	1
Attendance.....							23	23
New cases.....							11	11
BOY SCOUTS OF AMERICA:								
Meetings.....				1				1
Attendance.....				5				5
HEALTH DEPARTMENT:								
Refractions.....			83					83
Diagnoses.....			100					100
Glasses recommended.....			42					42
New cases.....			39					39
Playground attendance.....	1,175	2,640	955	1,540	1,455		785	8,550

While no rules can be formulated which may serve with certainty to prevent pneumonia, the observance of the following will greatly reduce chances of developing pneumonia.

Avoid fatigue — Avoid bad air, including over-heated, over-dry, ill-ventilated rooms — Avoid contaminated food — Avoid unsterilized eating or drinking utensils — Wash hands before eating.

NURSING SERVICE.

REPORT FOR SEPTEMBER, 1931.

HOMES VISITED	13,990
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CHILD HYGIENE:

Visits to new cases	1,228
Visits to old cases	8,961
	10,189
Included are:	
Wrong addresses	124
Not seen *	912
Absent visits	1,036

COMMUNICABLE DISEASES:

Visits to new cases	375
Visits to old cases	1,506
	1,881
Included are:	
Wrong addresses	11
Not seen *	68
Absent visits	79

TUBERCULOSIS:

Visits to new cases	160
Visits to old cases	5,635
	5,795
Included are:	
Wrong addresses	36
Not seen *	489
Absent visits	525
Positive cases visited	2,454
Contact cases visited	2,323
Suspect cases visited	493
	5,795

MISCELLANEOUS VISITS:

Patients accompanied to hospital	7
Visits to day nurseries	36
Visits to parochial schools	485
	528
	18,393

	Hrs.	Mins.
Hours in station	6,061	25
Hours at baby and preschool conference	1,745	35
Hours at tuberculosis clinic	730	05
Hours at nurses' conference	14	30
Total number of hours	8,551	35

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, SEPTEMBER, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING SEPTEMBER, 1931, WITH COMPARATIVE FIGURES FOR SEPTEMBER, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	839	759	+80	12.82	11.65	+1.17
Nonresidents deducted.....	702	603	+99	10.73	9.25	+1.48
By AGE:						
Under one year.....	87	92	—5	1.33	1.41	— .08
One year to four years, inclusive.....	27	25	+2	.41	.38	+ .03
Sixty years and over.....	387	317	+70	5.91	4.86	+1.05
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,180	1,240	—60	18.03	19.03	—1.00
b. Registered stillbirths.....	32	19	+13	.49	.29	+ .20
Stillbirths per 1,000 live births and stillbirths.....	—	—	—	26.40	15.10	+11.30
c. Deaths of mothers from causes incident to childbirth.....	5	6	—1	.08	.09	— .01
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	4.12	4.76	— .64
d. Deaths in first year per 1,000 live births..	—	—	—	73.73	74.19	— .46
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	56	41	+15	85.5	63.0	+22.5
Homicides.....	1	1	—	1.5	1.5	—
Suicides.....	10	9	+1	15.3	13.8	+1.5
Automobile accidents * (death in Boston)...	7	10	—3	10.7	15.3	—4.6
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	4	9	—5	6.1	13.8	—7.7
Broncho-pneumonia.....	36	39	—3	55.1	59.8	—4.7
Cancer.....	109	104	+5	166.5	159.6	+6.9
Cirrhosis of the liver.....	4	9	—5	6.1	13.8	—7.7
Diabetes mellitus.....	20	15	+5	30.6	23.0	+7.6
Diarrhea and enteritis (under two years)....	21	29	—8	32.1	44.5	—12.4
DEGENERATIVE DISEASES, So CALLED:						
Arteriosclerosis.....	17	18	—1	26.0	27.6	—1.16
Cerebral hemorrhage.....	61	38	+23	93.2	58.3	+34.9
Heart disease.....	166	135	+31	253.6	207.2	+46.4
Nephritis, chronic.....	53	55	—2	81.0	84.4	—3.4

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**REPORTABLE ILLNESS AND DEATHS IN BOSTON DURING SEPTEMBER,
1931, WITH COMPARATIVE FIGURES FOR SEPTEMBER, 1930.**

		CASES AND DEATHS.					
		ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
		1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:							
Anterior poliomyelitis.....	Cases..	* 189	† 69	+120	288.8	105.9	+182.9
	Deaths.	* 17	† 6	+11	26.0	9.2	+16.8
Cerebrospinal meningitis.....	Cases..	2	—	+2	3.0	—	+3.0
	Deaths.	2	—	+2	3.0	—	+3.0
Diphtheria.....	Cases..	65	32	+33	99.3	49.1	+50.2
	Deaths.	2	1	+1	3.0	1.5	+1.5
Influenza.....	Cases..	17	—	+17	26.0	—	+26.0
	Deaths.	2	—	+2	3.0	—	+3.0
Measles.....	Cases..	17	54	—37	26.0	82.9	—56.9
	Deaths.	—	—	—	—	—	—
Pneumonia (lobar).....	Cases..	29	27	+2	44.3	41.4	+2.9
	Deaths.	9	7	+2	13.7	10.7	+3.0
Scarlet fever.....	Cases..	65	52	+13	99.3	79.8	+19.5
	Deaths.	1	—	+1	1.5	—	+1.5
Tuberculosis (pulmonary).....	Cases..	113	114	—1	172.7	174.9	—2.2
	Deaths.	32	36	—4	48.9	55.2	—6.3
Tuberculosis (other forms).....	Cases..	30	31	—1	45.8	47.6	—1.8
	Deaths.	7	1	+6	10.7	1.5	+9.2
Typhoid fever.....	Cases..	3	10	—7	4.6	15.3	—10.7
	Deaths.	1	1	—	1.5	1.5	—
Whooping cough.....	Cases..	116	42	+26	177.2	217.8	—40.7
	Deaths.	3	1	+2	4.6	1.5	+3.1

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births, per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

* One hundred forty-one (141) nonresident cases; thirteen (13) nonresident deaths.

† Forty-five (45) nonresident cases; five (5) nonresident deaths.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

1559

MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

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No. 11

UNDULANT FEVER.

For two or more centuries there had been recognized a fever which in certain clinical aspects seemed peculiar to the Mediterranean countries. It came to be called by travelers from other parts of the world, the "Mediterranean fever." Its prevalence on the Island of Malta led to its being referred to more often as "Malta fever." It was also a problem of British military hygiene at Gibraltar, and this fact likewise helped to make the disease known to readers of medical literature in English. It was and still is frequently seen in southern Italy and in Sicily.

Like typhus fever, which has been recognized as a different disease from typhoid fever for less than one hundred years, Malta fever was confused with typhoid fever. Naturally, also, since it was found chiefly in regions where malaria as well as typhoid fever were common, Malta fever was by some medical authorities believed to be an atypical manifestation either of typhoid fever or of malaria.

Malta fever usually runs a course which is not very different from occasional cases of typhoid fever. The patient's subjective symptoms are virtually those of typhoid fever. While some of the distinctive clinical symptoms of typhoid fever are absent, a typical case of Malta fever usually continues for three or four weeks, when convalescence apparently begins. Relapses may occur in typhoid

fever. In Malta fever they occur as a regular course of the disease. Two or three or more may develop and the disease may drag on for months, if it does not kill the patient. The joints are likely to become involved as may happen in relapsing cases of typhoid fever.

Early in the present century a British investigator, Bruce, identified the cause of Malta fever as an organism, a bacillus, which he found in goats and which is now generally referred to as the *Brucella melitensis*. It was also demonstrated by Bruce that the usual manner of human infection was through the use of goats' milk.

In the Mediterranean regions where Malta fever prevailed it was regarded by the native population as a children's disease, just as yellow fever used to be considered in those districts of tropical America where this disease was endemic. As we now look back upon the situation it is apparent that the Mediterranean people who habitually used goats' milk generally possessed an immunity to Malta fever, and it also seems probable that such immunity, like the immunity to diphtheria which we find so general among Boston-bred adults, was established in many instances without the development of a recognizable case of the disease. Malta fever in those regions was, however, not always a "children's disease." The writer has seen typical cases of Malta fever in adult Italians and Greeks accustomed to goats' milk from infancy.

That immunity to the *Brucella melitensis* exists except as a result of exposure to infection seems doubtful. The writer has seen the ship's company of a British ship, twenty-three men, stricken with Malta fever evidently as the result of their use of milk from goats which formed a part of the cargo. While the ship was British the crew were of various nationalities.

It is customary for the Portuguese and other Mediterranean mariners to carry on their vessels goats to supply both milk and meat to the officers and crew, but the goats on the British ship above referred to were selected animals forming a consignment for breeding purposes destined to the southwestern United States.

Among other results, goat-raising ventures, which were in vogue in our southwest at the time of the incident just mentioned, served to make the people of that part of the United States acquainted with Malta fever. We have also come to realize more recently that the disease is really nothing new in this country.

A disease commonly known as "contagious abortion" has from time immemorial presented a well-recognized problem in the profitable breeding of cattle, both in this country and Canada. It seemed to prevail more in some regions than in others and in some localities manifested itself a veritable scourge. This disease was found to be due to an organism, a bacillus, which has received the name of the

Brucella abortus (Bang). An organism, which was found identified with a similar disease in hogs has received the name, the *Brucella suis*. So far as laboratory tests go the old Malta fever bacillus, the *Brucella melitensis* and the *Brucella abortus*, and the *Brucella suis*, virtually differ about as the various types of the pneumonia pneumococci. Accepted bacteriological usage would appear to justify reference to these three *Brucellæ* as different species of the same genus. It would also appear to be proper in the light of present bacteriological knowledge to recognize different varieties or "strains" of each species with different pathogenic possibilities.

There are several important facts to learn regarding the *Brucellæ* before protective measures, either with respect to animals or man, can be formulated with any great degree of confidence that they may be serving the real interests of public health and economic welfare.

The differences of opinions and of technique among laboratory workers and the absence of uniformity in their findings are evidence that no laboratory method which has as yet (July, 1931) been recommended for identifying the species of *Brucellæ*, to say nothing of the strains, is absolutely dependable. Then, too, since it is reasonably well established that animals, including men, may become infected with different species or strains of the *Brucella*,—if a *Brucella* be found in a sick cow it does not necessarily mean that it is the *Brucella abortus*.

A clinical manifestation of disease resulting from infection with any of the three *Brucellæ*, and occurring either in animals or man, is now referred to as *undulant fever*. The usual symptoms and course of undulant fever are those of Malta fever described in the foregoing, and the term Malta fever may now be regarded as obsolete in this country. It has been definitely established that human beings may contract undulant fever from goats, pigs, or cattle. They may contract it from the milk of a cow, or even from handling the meat of an infected pig or other animal. It is to be conceded that a human being may be susceptible to infection from different species or strains of *Brucellæ* even though proof of identification of the species may be open to question in a particular case. In view of such evidence of human susceptibility to undulant fever from various sources, and of the frequency of infection among animals in this country, especially cattle, it has become a matter of great practical and economic importance to learn why recognizable cases of undulant fever in human beings in this country are comparatively rare.

Senior Surgeon H. E. Hasseltine, U. S. Public Health Service, states* that only 1,305 human cases of undulant fever were reported

*A study of the epidemiology of undulant fever.—American Journal of Public Health, May, 1931.

in the United States in 1929. Cases were however reported from every state of the Union. In view of the fact that Malta fever used to be popularly regarded as a "children's disease" in Mediterranean countries, it may be observed that the cases of undulant fever reported in this country in 1929 showed, according to Doctor Hasseltine, "a comparatively low incidence in young children." Hasseltine states that "the distribution between sexes was nearly three males to one female," thus reminding us of the incidence of epidemic cerebrospinal meningitis and some other diseases as regards sex. Also, like cerebrospinal meningitis, more than one case of undulant fever in a household appears to be exceptional. Hasseltine's investigations, covering somewhat less than half the human cases of undulant fever reported in 1929, would seem to indicate that raw cow's milk was responsible for most of the cases. This does not necessarily mean that the infecting organism was the *Brucella abortus*. The investigation apparently did not include efforts to determine the infecting species. Apart from the practical difficulty and uncertainty of such an undertaking it was presumably too late to make an attempt to do so. Other and more recent investigations seem to indicate that, even when human cases of undulant fever are due to cow's milk, it is more likely that the cow has been infected with, or the milk itself contaminated by the *Brucella suis*, the porcine species of the *Brucella*.

There does not appear to be any good reason for doubting that the *Brucella abortus*, the bovine species, or some strain or strains of this organism may be capable of producing undulant fever in human beings, but it seems at present questionable if this be the most common infective agent in cases of undulant fever in this country.

Of the cases investigated by Hasseltine, somewhat less than ten per cent were persons who had been infected by handling the meat of infected animals. Other investigations would indicate that such infections usually come from pork. Hasseltine suggests that other animals besides cattle, pigs and goats are susceptible to the *Brucella*, and may be sources of human infection. He also calls attention to possible dangers from the *Brucellæ* in animal and human feces.

Laboratory cultures of the *Brucellæ* may be obtained from the blood, milk or other secretions of infected animals and from the fetuses of animals which have aborted as the result of infection. This would however appear to be a procedure liable to misinterpretation and for other reasons also not ordinarily practicable for diagnostic purposes. For such purposes and as a means of detecting infection it has therefore become customary to depend upon agglutination reactions of blood or milk with laboratory cultures supposedly

representing various species or strains of the *Brucella*. Agglutination reactions are likewise usually depended upon for diagnostic purposes in human beings, but cultures have been obtained from human blood and even from feces. Agglutination tests in human beings have also been supplemented by extensive studies of cutaneous reactions with a view to establishing a test of infection similar to that supposed to be established by a cutaneous reaction to tuberculin, for example.

Any one who has had a considerable clinical experience in general medical practice, and particularly if he has been accustomed to send specimens to different laboratories, comes to learn that while laboratory agglutination reactions and cutaneous reactions to proteins as well are valuable diagnostic aids they are frequently inconsistent and undependable, be it by reason of something which has happened in the laboratory or because of some bio-chemical peculiarity on the part of the patient. Reasons of this sort may account for some of the confusing results of studies of *Brucella* infections by different investigators, but it would appear that there are other and somewhat different causes for some of the inconsistencies and apparent contradictions to be found in the literature on the subject.

K. F. Meyer * states that a diligent search in California over two years for acute *Brucella* infections in children, including seventy-five infants fed from one to twelve months on a raw milk containing a large number of *Bacillus abortus* and 200 other children from one to five years old, gave negative results. He adds, however, that "evidence adduced from the clinical, serological and allergic studies was considered suggestive that *Brucella abortus* (*bovinus*) is non-pathogenic for infants and children," because "it was not realized that the age group 0 to 5 in countries north of the 45th latitude possess a very high immunity against the infection," and that "the nature of the '*abortion reaction*' was incompletely understood." Doctor Meyer does not indicate how this geographical limitation to human susceptibility to *Brucella* infection was discovered, nor does he make clear its relation to the apparent immunity of the children studied in California, the northern boundary of which is the 42d parallel.

Undulant fever in its modern aspects appears to have first attracted the attention of public health officials in our Western States. It is here that contagious abortion has been particularly troublesome to cattle breeders. It was here, also, that Malta fever appeared in consequence of the importation of European goats.

* Public Health Control of Infectious Abortion in Certified Milk;—American Journal of Public Health, May, 1931.

In 1917 a report was presented before the 68th session of the American Medical Association in which it was stated that "For practical purposes *Brucella abortus* is always present in certified milk produced in the San Francisco Bay region." *

As already mentioned an investigation made in California at that time failed to reveal any cases of undulant fever among the children or other consumers of this milk. Since then, however, human cases of undulant fever, apparently due to cow's milk, have been discovered in California. In the meantime approved tests of cattle made under the auspices of Milk Commissions in various states have indicated a widespread infection of animals in the United States. Some herds have been found free from "reactors." Other herds have shown nearly forty per cent. In 1927 the Association of Certified Milk Commissioners of Almeida, Los Angeles and San Francisco Counties, California, adopted a requirement specifying that, "after July 1, 1930, only animals free from *Brucella abortus* infections shall be permitted in a certified dairy, or to come in contact with any animal in a certified herd." †

Similar requirements affecting the production and sale of "certified" milk have been promulgated in many states during the past few years, and the cost of replacement of "reactors" has been tremendous. At first it was deemed sufficient to condemn an animal if a positive agglutination reaction with the blood was obtained. More recently it has been advocated that an animal without clinical symptoms might be regarded as acceptable unless the milk as well as the blood gave a positive agglutination. Studies indicate that whenever the milk is positive the blood also gives a positive agglutination reaction. ‡ Animals whose blood and milk show the presence of the *Brucella abortus* often present no evidence of sickness. Many of them have never aborted. On the Pacific slope the claim is even made that abortion may be prevented by diet. Is it that these "agglutinators" are establishing an immunization against the *Brucella* just as many tuberculin "reactors" would become immune to tuberculosis and tend to create a breed of cattle highly resistant to serious manifestations of tuberculous infection if they were not slaughtered? In this connection it is suggestive to hear reports that just as "tuberculin tested" cattle from "accredited" herds are liable to develop a rapidly fatal tuberculosis when taken out of their favored environment, like Eskimos and Indians when brought in contact with civilization, so when

* Public Health Control of Infectious Abortion in Certified Milk, K. F. Meyer.—American Journal of Public Health, May, 1931.

† K. F. Meyer, in the American Journal of Public Health, May, 1931.

‡ John F. Norton and L. R. Pless, Agglutinins for *Brucella Abortus* in the Blood and Milk of Cows.—American Journal of Public Health, May, 1931.

negative "*Brucella agglutinators*" are brought as "replacements" into a certified milk dairy farm presumably freed from infective animals they often quickly develop "contagious abortion." Irrigation ditch water and crows are among the unknown agencies which have been suspected to be responsible for infection. It is for this reason that the time for periodic agglutination tests of a herd has been gradually reduced until now every thirty days is not unusual, thus indicating that tests made at regular intervals are likely to give about the same sort of public protection as the periodic examination of human food handlers.

There have accumulated a large number of results of blood agglutination tests and cutaneous reactions made in America and Europe on children and adults who have been found to have been consuming raw milk containing the *Brucella abortus*, or have been in contact with infected animals without apparently harmful effects.

In considering such reports Hasseltine, in his article already referred to, states that in 1930 the Laboratory of Animal Pathology of the University of Illinois and the Hygienic Laboratory at Washington jointly tested the blood of seventy-four veterinarians exposed to *Brucella* infection and eight clerks presumably not so exposed. The blood of virtually 25 per cent of the first of the two groups gave positive reactions and two of the clerks gave partial agglutinations. In Michigan forty-nine veterinarians gave 57 per cent of positive reactions. Hasseltine quotes a report from Denmark to the effect that of 272 persons who had been in contact with cattle 110 gave positive reaction from the *Brucella*, either by the agglutination test or a complement fixation test or both. Of sixty-one other persons who had had no contact with cattle all gave negative results to similar tests.

(To be continued in the December Bulletin.)

DEATH OF DR. WALTER T. FULLER.

It is with regret that we have to announce the death, on October 30, of Dr. Walter T. Fuller, medical inspector in charge of the Charlestown Health Unit. Doctor Fuller has been connected with the Health Department for twenty-five years, first as school physician, then district medical inspector and at the time of his death as medical inspector in charge of the Charlestown Health Unit. His work was at all times well and faithfully performed, and we realize that the department has lost a willing, industrious and conscientious friend.

THE PREVENTION OF PNEUMONIA.

Whenever human beings or animals are crowded together in considerable numbers in a confined space they will sooner or later begin to die with some form of pneumonia. The crowding both favors the interchange of pneumonia producing germs among them and produces bodily conditions which tend to make them vulnerable to such germs, and incidentally also tend to increase the virulence of the germs.

Some conditions which predispose to pneumonia have been mentioned above. Their avoidance will tend to prevent pneumonia. But no matter how favorable to the development of pneumonia a person's bodily condition may be he will not develop pneumonia without the presence of disease germs capable of producing pneumonia. *Pneumonia is a contagious disease* and it has been demonstrated that if the same precautions for the protection of others be taken with cases of pneumonia as it is customary to take in cases of scarlet fever, the spread of pneumonia will be checked in a community even though pneumonia germs may be spread by healthy persons as well as by the sick.

USE OF HYDROCYANIC ACID GAS FOR FUMIGATING.

In a report recently published by the United States Public Health Service, the use of various fumigating materials, particularly hydrocyanic acid gas, is discussed. Hydrocyanic acid gas is a deadly gas. Persons unfamiliar with its use and effect should not expose themselves to it. This report indicates that trained fumigators can handle the most deadly gases with safety, both to themselves and others. It is, on the other hand, quite as true that in the hands of the uninformed or careless many forms of fumigation are a menace to all concerned.

The report emphasizes that fumigating materials, particularly the deadly gases, should be handled only by persons trained in their use and who have the necessary equipment, such as gas masks, to protect themselves as the occasion requires. These gases should never be used without the full knowledge and consent of the local public health or police authorities. Hydrocyanic acid gas should never be used in buildings without combination with a warning gas.
— *U. S. Public Health Service, August 14, 1931.*

"Some day we will all realize that polluted air is as great a health menace as polluted water or exposure to an infectious disease."— *Pittsburgh's Health, September, 1931.*

TYPHOID FEVER.

The marked reduction in the prevalence of typhoid fever throughout the United States has been one of the outstanding accomplishments in public health during the past quarter of a century. This has been accomplished in cities whose sources of public water supply are grossly polluted, largely by the intelligent installation of approved water purification plants. However, although the purified public drinking water meets the accepted sanitary standards, there often persists in such cities a small number of cases of typhoid fever. This fact stimulated the United States Public Health Service to undertake an extensive study of these persisting or residual cases of typhoid fever; the object being to determine if they could bear any relation to the municipal drinking water, even though it did meet the present rigid sanitary standards.

Six cities situated on the Ohio river were selected for study, both because of the polluted character of their raw water supplies and because of the excellence of their municipal water purification plants.

The Ohio river is the source of the public water supply for each city. During the period of raw water consumption, the typhoid fever incidence in each city was uniformly very high in every month of the year — a seasonal distribution which is typical of endemic water-borne typhoid fever. Following the installation of the present public water supplies, the typhoid incidence promptly fell to a low rate comparable with rates prevailing in other cities on the Ohio river watershed which have had, at least since 1914, safe water supplies. At the same time, the seasonal distribution changed so as to give a definitely summer and fall disease.

Ample evidence did accumulate to indicate that routes of transmission of typhoid fever other than the public water supply were in all probability the more usual. Therefore, the conclusion was reached from the evidence collected that modern water purification plants, such as are in operation in the six cities studied, when properly operated and controlled, effectively eliminate the danger of contracting typhoid fever from the public drinking water even though the raw water supply be grossly polluted.

— *United States Public Health Service, September 9, 1931.*

WHAT IS MEANT BY ISOLATING A CASE OF DIPHTHERIA.

By isolating a case of diphtheria is meant the keeping of the patient and everything that comes in contact with him apart from other people so that they may not be exposed to infection. A person with diphtheria should be kept in a room by himself. Only one person

should be allowed to attend the patient. This attendant should wear a gown in the patient's room and remove it before leaving the room. The attendant should always wash his or her hands before leaving the room, first washing them with soap and hot water and then rinsing them in a disinfecting solution.

Nothing which comes in contact with the patient, glasses, cups, forks, spoons or other eating utensils, clothing, bedding, handkerchiefs, should be taken out of the patient's room or allowed to come in contact with other persons before being disinfected and sterilized. Cloths or papers which have been directly soiled by discharges from the patient's mouth or nose should be dropped into a disinfecting solution and then burned. Disinfection can be done by boiling or by disinfecting solutions. No eating or drinking utensils should be brought out of the patient's room and used by other persons before being boiled for twenty minutes.

DISINFECTION IN SICK ROOM.

If due care as to cleanliness of sick room has been taken during the course of the illness, disinfection after the recovery of the patient will be very much easier. In any case, after the recovery of the patient, bed covering should be spread about so as to "air" the bed; closet doors and bureau drawers should be opened, and then windows and doors leading into the open air should be thrown wide open for twenty-four hours or more. Then proceed to remove from the room for destruction such articles as are to be destroyed, and give the room generally a thorough "housecleaning." A vacuum cleaner should be used on carpets, rugs and furniture, preferably after they have been taken out of doors in the open air. Rugs and hangings, if any have been in the room, should be exposed to the sunshine and fresh air; floors and woodwork should be thoroughly scrubbed with soap and water and afterwards, together with the furniture, should be wiped off with a damp cloth which has been wet and wrung out in a bichloride of mercury solution, 1 to 1,000, made by adding one standard seven and one half grain bichloride tablet to each pint of water. If the scrubbing, sunning and airing be done with care, and if precautions against infection of the room during the illness have been followed, the room will be reasonably safe for occupancy. Additional safeguards may be taken by washing up floors and woodwork with a bichloride of mercury solution suggested above, and wiping off the walls with a cloth damped with that solution. Whitewashing can then be done with advantage, and if the paper is in any way in poor condition it had best be replaced.

HOW TO AVOID MEASLES.

After a person has been infected with measles he does not show any symptoms of sickness for nine or ten days or even longer. He then begins to have a slight running of the nose and eyes and possibly a slight cough or in other words the symptoms of a mild cold. These symptoms become marked and three or four days later, or about fourteen days or more after he was infected, he breaks out with the characteristic rash of measles.

It is during these three or four days before the measles rash appears and while the patient is often supposed to have "only a cold" that the secretions from his mouth and nose are most virulent and he is most dangerous to others. This is the chief reason why measles has the reputation of being so contagious. Nothing is usually done to protect other persons until the measles rash begins to appear. As a matter of fact after the rash appears the secretions usually lose very rapidly their power to transmit the disease.

To protect the younger children of the family against measles it is therefore necessary to protect them against other children who may be in the early stages of measles but who seem to have only a mild cold.

SUMMARY OF WORK, 1931. OCTOBER, ADMINISTRATION DIVISION.

Prosecutions	2	Personnel:	
Legal notices	100	Permanent appointment . . .	1
Settlements:		Temporary appointments . . .	2
Total cases	141	Resignation	1
Notices	113	Suspension	1
Bills	28	Death of employee	1
Hearings	3		

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,070	Milk licenses approved	204
Denatured alcohol approved . . .	55	Dump permit approved	1
Hen licenses approved	34	Pedlers' licenses approved . . .	57
Massage-manicure approved . . .	119	Undertaker (new license) . . .	1
Ice cream dealers approved . . .	52	Undertaker disapproved	1
Ice cream dealers disapproved . .	1	Lodging house disapproved . . .	1
Pasteurization of milk	24	Lying-In Hospital approved . .	1

MEDICAL DIVISION.

Reported cases	906	Visits:	
Nonresidents	112	By V. D. investigator	359
Deaths investigated	41	By medical inspectors to cases of communicable disease . .	240

LABORATORY DIVISION.

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF OCTOBER 1931.

DIPHTHERIA:

Positive for diagnosis	42	
Positive for release	33	
Negative for diagnosis	391	
Negative for release	60	
No growth cultures	21	
	<hr/>	547

DARK FIELD TREPONEMA PALLIDA:

Positive	1	
Unsatisfactory	1	
	<hr/>	2

GENITO URINARY TUBERCULOSIS:

Positive	1	
Negative	23	
	<hr/>	24

GONORRHEAL OPHTHALMIA:

Positive	3	
Negative	46	
	<hr/>	49

GONORRHEAL URETHRITIS:

Positive	135	
Negative	807	
	<hr/>	942

MALARIA:

Negative	5	
Unsatisfactory	1	
	<hr/>	6

MISCELLANEOUS EXAMINATIONS:*

Positive	18	
Negative	20	
Unclassified	241	
	<hr/>	279

TUBERCULOSIS:

Positive	38	
Negative	390	
Unsatisfactory	1	
	<hr/>	429

TYPHOID:

Positive	2	
Negative	29	
	<hr/>	31

SYPHILIS:

Positive	80	
Negative	897	
Unsatisfactory	14	
Doubtful	12	
	<hr/>	1,003

Bacteriological milk examinations 560

Bacteriological ice cream examinations 63

Total

3,935

Swimming pools examined 64

Extra waters 4

* Unit urines, 241; Vincents' angina, 27; virulence (5); Muellers' macaroni for B coli, 1; brown bread for B coli, 1; smear for organisms, 1; chest fluid for organisms, 1; urine for eberthella typhi, 1; faeces for eberthella typhi, 1.

FOOD DIVISION.

(MILK INSPECTION.)

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during October, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization, and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.*.....	12.71	4.03	3,500
Antetomasso, Peter.....	12.77	4.00	14,000
Buxton, William E.*.....	14.11	4.70	12,000
Casey, James D.....	12.74	4.00	9,000
Cashin, J. F., & Co.*.....	12.68	4.00	13,000
Cedar Hill Farm, Inc.....	12.85	3.90	7,500
Chapin, George L.....	12.73	3.95	13,000
Clark, Levi.....	12.34	3.65	7,000
Corkery, John J.....	13.14	4.18	12,000
Cosgrove, Martin S.....	12.62	3.96	11,000
Daley, John.....	12.62	3.93	10,000
Dean, Louis W.*.....	14.02	4.75	11,000
Deerfoot Farm Company*.....	12.78	4.07	6,000
Denehy, Timothy.....	12.33	3.80	22,000
Driscoll, William B., Company.....	12.58	3.80	11,000
Elm Spring Farm Company*.....	12.66	4.02	12,000
Ferguson, Malcolm D.....	12.87	4.03	18,000
Garfield, Mason*.....	14.97	5.70	350
Garvin, Charles.....	13.12	4.30	2,000
Giroux, J. E. & H. J.....	13.05	4.08	33,000
Griffin, Joseph L.....	13.24	4.30	12,000
Gushee, Chester W.....	12.98	4.11	33,000

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Hampden Creamery Company.....	13.01	4.07	26,000
Herlihy Brothers, Inc.....	12.65	3.87	24,000
Hickey, J. B.....	12.29	3.85	10,000
Holden, John E.....	12.62	3.82	12,000
Hood, H. P., & Sons, Inc.....	12.48	3.84	11,000
Hutchinson, Frank T.....	12.92	4.13	4,500
Jones, William T., Company.....	12.43	3.80	12,000
Kendall Brothers.....	12.70	3.88	11,000
Kingston Brothers.....	12.92	4.08	22,000
Knapp, George J.*.....	12.79	3.80	9,000
Lang Brothers.....	12.92	4.05	26,000
Larsson, Charles*.....	12.74	3.88	13,000
Lyndonville Creamery Association.....	12.89	4.11	27,000
Manning, Harriet.....	12.29	3.68	16,000
McAdams J. F., & Brothers, Inc.....	13.00	4.05	12,000
McKernan, John.....	12.65	3.85	10,000
New England Creamery Products Company*.....	12.98	4.17	20,000
Prescott, J. B., Company.....	12.56	4.02	2,300
Robinson, A. J.*.....	13.07	4.08	13,000
Schuster, Adam*.....	12.93	3.97	23,000
Seven Oaks Dairy Company.....	12.58	3.83	11,000
Shawsheen Dairy, Inc.....	13.09	4.00	12,000
Shick, Jacob.....	12.06	3.65	18,000
Somerset Farm Creamery Company.....	13.08	4.25	16,000
Sterling Farm Milk Company.....	12.52	3.71	24,000
Stone, H. L.....	12.60	3.80	3,500
Stuart, W. E., Company.....	12.88	4.10	13,000
Tufts Brothers.....	12.71	3.95	650
Turner Centre System, Inc.....	12.63	3.81	7,000
United Farmers Co-operative Creamery Association, Inc..	12.82	4.03	11,000
Walker-Gordon Laboratory Company *†.....	12.84	4.05	425
Warren, Isaac F.....	12.85	4.05	17,000
Weiler, E., & Sons*.....	12.70	4.02	15,000
Westwood Farm Milk Company.....	12.55	3.86	17,000
White Brothers.....	12.66	4.00	4,000
Whiting Milk Companies.....	12.61	3.76	16,000
Whittemore, W. D.*.....	12.94	4.10	18,000
Wiswall, Granville A.....	12.72	4.00	33,000
Woodland, Charles L.*.....	12.92	4.10	11,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

† All cows tested and reported free from infectious abortion.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc...	12.62	3.88	8,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.....	12.68	3.83	21,000
First National Stores, Inc.....	Bellows Falls Co-operative Creamery Association.	13.08	4.10	9,000
Gray-United Stores, Inc.....	Turner Centre System.....	12.72	3.80	10,000
Morgan Brothers Company....	New England Creamery Products Company and United Farmers Co-operative Creamery Association, Inc.	12.77	4.02	14,000
H. Winer Company.....	Whiting Milk Companies...	12.73	3.87	16,000
M. Winer Company.....	M. Winer Company.....	12.94	3.97	27,000

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farm Company.....	Alta Crest *.....	12.96	4.10	4,000
Hood, H. P., & Sons, Inc.....	Own *.....	14.72	5.25	1,000
Turner Centre System, Inc.....	Alta Crest *.....	12.93	4.00	1,200
Walker-Gordon Laboratory, Company.	Own *.....	12.94	4.10	1,700
Whiting Milk Companies.....	Hampshire Hills.....	12.69	4.10	1,100

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK — PASTEURIZED.

The standards, before pasteurization, to be the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P., & Sons, Inc.....	Own *.....	13.55	4.40	100
Whiting Milk Companies.....	Hampshire Hills.....	12.54	3.80	100

* All cows tested and reported free from infectious abortion.

GRADE A MILK—PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacterial content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	12.91	4.10	5,000
Cashin, J. F., & Co.*.....	13.29	4.60	10,000
Corkery, John J.....	13.59	4.58	6,000
Cosgrove, Martin S.....	13.31	4.40	3,000
Dean, Louis W.*.....	13.85	4.50	7,000
Elm Spring Farm Company *.....	13.09	4.27	11,000
Griffin, Joseph L.....	13.18	4.30	7,000
Herlihy Brothers, Inc.....	12.70	4.20	10,000
Hood, H. P., & Sons, Inc.*.....	12.56	4.18	5,500
Jones, William T., Company.....	13.50	4.53	8,000
Lyndonville Creamery Association.....	13.68	4.70	6,000
McAdams, J. F., & Brothers, Inc.....	13.18	4.48	6,000
New England Creamery Products Company *.....	13.41	4.50	7,000
Robinson, A. J.*.....	13.43	4.30	10,000
Seven Oaks Dairy Company.....	13.17	4.18	7,000
Shawsheen Dairy, Inc.....	13.55	4.15	1,800
Sterling Farm Milk Company.....	13.02	4.25	9,000
Turner Centre System, Inc.*.....	12.51	4.05	2,500
White Brothers *.....	13.17	4.33	6,000
Whiting Milk Companies *.....	12.64	4.06	5,500
Woodland, Charles L.*.....	13.44	4.50	9,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	288
Milk from stores	892
Tonic	2
Ice cream	2
Vinegar	27
Samples referred to Bacteriological Laboratory for examination:	
Milk	560
Ice cream	63
Court cases	3
Fines	\$30

DAIRY DIVISION.

Total services	2,389	Total cattle inspected.	14,285
Dairies inspected	874	Inspection of milk plants and	
Scoring above 50 *	741	licensed dealers	145
Scoring below	133	Country creamery inspections	6
With milk rooms	839	Sediment tests	703
Without milk rooms	35	Bacteriological examinations	578
Inactive	78		

* Passable mark.

FOOD INSPECTION DIVISION.

OCTOBER, 1931.

District inspections	4,388
Reinspections	270
Market inspections	1,581
Terminal inspections	656
Vehicle inspections *	4,423
Stand inspections	1,565
Complaints	44
Notices served	134
Hours on special duty	190
Samples taken	1
Condemnations	102
Pedlers' licenses certified	57
Pedlers' vehicles approved	823
Numbers assigned	64

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	3,873	Parts condemned	1,133
Calves inspected	3,642	Animals condemned	40
Swine inspected	4,330	Total of meat condemnations	
Sheep inspected	1,198	(pounds)	20,227

SANITARY DIVISION.

Original inspections	3,704	Complaints investigated	655
Causes for action found	2,283	Nuisances abated	2,175
Reinspections	7,360	Routine inspections	3,468
Legal notices served	108		

TUBERCULOSIS DIVISION.

HEALTH UNIT SOLARIA, OCTOBER, 1931.

	Number of Days.	Attendance for Month.	Attendance Each Day.
Charlestown.....	26	734	28
East Boston.....	26	613	27
North End.....	26	519	19
Roxbury.....	26	737	28
South Boston.....	25	641	25
West End.....	26	294	11
Totals.....	155	3,538	138

In the month of October there were eighty-three day clinic sessions and thirty-four evening clinic sessions.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	12	120	133	253	3	15	—	15
East Boston.....	9	50	87	137	4	9	—	9
North End.....	8	40	124	164	4	5	1	6
West End.....	9	34	49	83	3	4	1	5
South Boston.....	8	38	83	121	4	8	2	10
Boston Dispensary.....	7	24	11	35	—	—	—	—
Brighton.....	4	25	6	11	3	2	1	3
Charlestown.....	5	26	56	82	4	6	2	8
Codman square.....	9	106	101	207	4	16	—	16
Hyde Park.....	4	36	19	55	5	21	—	21
Arcadia street.....	4	26	22	48	—	—	—	—
Roxbury.....	4	69	53	122	—	—	—	—
Totals.....	83	574	744	1,318	34	86	7	93

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	33	25	58	4	—	4
East Boston.....	8	17	25	—	—	—
North End.....	7	13	20	1	—	1
West End.....	1	5	6	—	—	—
South Boston.....	9	9	18	1	—	1
Boston Dispensary.....	4	—	4	—	—	—
Brighton.....	—	—	—	—	—	—
Charlestown.....	5	11	16	—	—	—
Codman square.....	10	10	20	1	—	1
Hyde Park.....	4	—	4	3	—	3
Arcadia street.....	6	4	10	—	—	—
Roxbury.....	10	9	19	—	—	—
Totals.....	97	103	200	10	—	10

DISTRICTS.	DAY CLINIC.				NIGHT CLINIC.				
	VON PIRQUET.		Wasser-mann.	Lamp.	VON PIRQUET.		Wasser-mann.	Lamp.	X-Ray Reports.
	V. P.	V. P. Tests.			V. P.	V. P. Tests.			
South End.....	34	30	23	75	—	—	—	—	99
East Boston.....	22	16	6	—	1	—	—	—	47
North End.....	23	27	7	—	—	1	—	—	32
West End.....	10	8	3	—	—	1	—	—	21
South Boston.....	14	17	7	28	1	1	—	—	79
Boston Dispensary...	5	1	—	—	—	—	—	—	—
Brighton.....	—	—	1	—	—	—	—	—	—
Charlestown.....	13	6	6	—	—	2	—	—	25
Codman square.....	14	21	10	—	—	—	—	—	—
Hyde Park.....	—	2	3	—	—	—	3	—	—
Arcadia street.....	4	—	5	—	—	—	—	—	—
Roxbury.....	24	4	9	—	—	—	—	—	42
Totals.....	163	132	80	103	2	5	3	—	345

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING OCTOBER, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	9	24.33
Seven days or less.....	—	—
Eight to fourteen days, inclusive.....	—	—
Fifteen to twenty-one days, inclusive.....	—	—
Twenty-two to thirty-one days, inclusive.....	—	—
WITHIN FIRST MONTH. (Total).....	9	24.33
Within second month.....	3	8.10
Within third month.....	4	10.81
Within fourth month.....	1	2.70
Within fifth month.....	2	5.40
Within sixth month.....	—	—
Within seventh month.....	2	5.40
Within eighth month.....	—	—
Within ninth month.....	1	2.70
Within tenth month.....	—	—
Within eleventh month.....	—	—
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	22	59.44
Within second year.....	3	8.10
Within third year.....	5	13.51
More than three years.....	7	18.95
Grand totals.....	37	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF OCTOBER, 1931.

PUBLIC SANATORIALS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	19	19	14	30
North Reading State Sanatorium.....	4	3	1	4
Lakeville State Sanatorium.....	2	2	2	5
Rutland State Sanatorium.....	5	2	4	2
Westfield State Sanatorium.....	—	—	—	—
Tewksbury.....	1	1	—	—
Totals.....	31	27	21	41

PRIVATE SANATORIALS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	—
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	16	—	17	—
Doctor Crane's Sanatorium.....	—	—	—	—
Rutland Prison Camp.....	—	—	—	—
Totals.....	16	—	17	—

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, October, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	205	14	219	41	—	41	4	54
Lincoln street.....	91	8	99	10	—	10	5	19
Charlestown.....	368	14	382	36	4	40	7	54
Codman square.....	565	34	649	76	—	76	7	93
Columbia road.....	339	31	370	29	4	33	7	53
Arcadia street.....	372	9	381	42	—	42	9	42
East Boston.....	473	14	487	63	—	63	8	61
Hyde Park.....	224	51	275	26	—	26	9	31
Jamaica Plain.....	274	28	302	32	1	33	4	76
North End.....	202	129	331	18	3	21	8	41
Roslindale.....	264	33	297	37	—	37	3	99
Roxbury.....	686	49	735	89	1	90	12	61
Children's Hospital.....	114	8	122	9	1	10	3	41
Columbus avenue.....	502	45	547	53	2	55	9	61
South Boston.....	445	93	538	58	16	74	9	60
South End.....	362	22	384	48	—	48	9	43
Tyler street.....	140	19	159	14	—	14	4	40
West End.....	442	105	547	35	2	37	8	68
Totals.....	6,068	756	6,824	716	34	750	125	71

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, OCTOBER, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second	Third.	Total.	
Old Town Hall.....	5	6	5	16	10
Lincoln street.....	4	1	1	6	10
Charlestown.....	18	9	6	33	46
Codman square.....	49	45	30	124	69
Columbia road.....	17	10	15	42	30
Arcadia street.....	6	3	7	16	46
East Boston.....	—	—	—	—	—
Hyde Park.....	13	14	11	38	38
Jamaica Plain.....	4	3	4	11	28
North End.....	—	—	—	—	—
Roslindale.....	3	3	—	6	35
Roxbury.....	—	—	—	—	1
Children's Hospital.....	4	4	—	8	11
Columbus avenue.....	10	9	8	27	80
South Boston.....	1	2	—	3	13
South End.....	14	6	5	25	35
Tyler street.....	3	9	8	20	10
West End.....	—	1	1	2	2
Totals.....	151	125	101	377	464

REPORT OF MEDICAL INSPECTORS, OCTOBER, 1931.

Physical examinations	249
Schick tests	3
Toxin-antitoxin	4,504
Vaccinations at units	461
Vaccination certificates	518
Day nursery visits	9

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, OCTOBER, 1931.

UNIT.	Number of Patients.	Number of Operations.
West End.....	918	1,815
North End.....	795	1,617
South End.....	890	2,211
East Boston.....	819	1,004
South Boston.....	1,148	2,462
Roxbury.....	1,034	1,480
Charlestown.....	1,060	2,199
	6,664	12,788

REPORT OF MEDICAL INSPECTIONS OF PAROCHIAL SCHOOLS, OCTOBER, 1931.

Number visits to schools	383
Children seen	2,473
Children excluded	33
Children readmitted	1,459

COOPERATIVE HEALTH UNIT REPORT, OCTOBER, 1931.

	Charles- town.	East Boston.	North End.	Rox- bury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physicians.....	87				52		57	196
HULL STREET DISPENSARY:								
Calls by district physicians.....			46					46
BOSTON LYING-IN HOSPITAL:								
Clinics.....	5	3	4	3	5	5	5	30
Attendance.....	23	56	51	25	71	27	70	323
New cases.....	6	17	19	6	25	11	18	102
FAMILY WELFARE SOCIETY:								
Staff meetings.....	4	4			1	2	3	14
Attendance.....	38	42			28	28	88	224
CHILDREN'S HOSPITAL:								
Infantile clinics.....	4	5			5	5		19
Attendance.....	36	20			86	26		168
New cases.....		3				2		5
STATE DEPARTMENT MENTAL DISEASES:								
Habit clinics.....							4	4
Attendance.....							18	18
New cases.....							8	8
BOY SCOUTS OF AMERICA:								
Meetings.....				4				4
Attendance.....				51				51
GIRL SCOUTS OF AMERICA:								
Meetings.....				1				1
Attendance.....				20				20
HEALTH DEPARTMENT — REFRACTION SERVICE:								
Refractions.....			167					167
Diagnoses.....			197					197
Glasses recommended.....			65					65
New cases.....			33					33
JUVENILE COURT:								
Meetings.....		1						1
Attendance.....		4						4
JEWISH WELFARE SOCIETY:								
Meetings.....							1	1
Attendance.....							25	25

NURSING SERVICE.
REPORT FOR OCTOBER, 1931.

HOMES VISITED	15,785
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CHILD HYGIENE:

Visits to new cases	1,282
Visits to old cases	10,056
	11,338
Included are:	
Wrong addresses	154
Not seen *	1,021
	1,175
Absent visits	

COMMUNICABLE DISEASES:

Visits to new cases	293
Visits to old cases	864
	1,157
Included are:	
Wrong addresses	7
Not seen *	28
	35
Absent visits	

TUBERCULOSIS:

Visits to new cases	192
Visits to old cases	6,014
	6,206
Included are:	
Wrong addresses	51
Not seen *	565
	616
Absent visits	
Positive cases visited	2,748
Contact cases visited	2,289
Suspect cases visited	553
	6,206

MISCELLANEOUS VISITS:

Patients accompanied to hospital	4
Visits to day nurseries	85
Visits to parochial schools	812
	901
	19,602

	Hrs.	Min.
Hours in station	3,851	00
Hours at baby and pre-school conference	1,644	55
Hours at tuberculosis clinic	681	35
Hours at nurses' conference	220	05
Hours at solarium	2,043	30
	8,440	25
Total number of hours		

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, OCTOBER, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING OCTOBER, 1931, WITH COMPARATIVE FIGURES FOR OCTOBER, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	899	909	—10	13.74	13.95	— .21
Nonresidents deducted.....	727	710	+17	11.11	10.89	+ .22
By AGE:						
Under one year.....	98	112	—14	1.50	1.72	— .22
One year to four years, inclusive.....	26	29	—3	.40	.44	— .04
Sixty years and over.....	411	402	+9	6.28	6.17	+ .11
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,155	1,271	—116	17.65	19.50	—1.85
b. Registered stillbirths.....	39	47	—8	.59	.72	— .13
Stillbirths per 1,000 live births and stillbirths.....	—	—	—	32.66	35.66	—3.00
c. Deaths of mothers from causes incident to childbirth.....	4	7	—3	.06	.11	— .05
Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	3.35	5.31	—1.96
d. Deaths in first year per 1,000 live births..	—	—	—	84.85	88.12	—3.27
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	41	47	—6	62.6	72.1	—9.5
Homicides.....	3	—	+3	4.6	—	+4.6
Suicides.....	12	8	+4	18.3	12.3	+6.0
Automobile accidents * (death in Boston)...	14	13	+1	21.4	19.9	+1.5
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	11	9	+2	16.8	13.8	+3.0
Broncho-pneumonia.....	31	47	—16	47.4	72.1	—24.7
Cancer.....	100	114	—14	152.8	174.9	—22.1
Cirrhosis of the liver.....	6	6	—	9.2	9.2	—
Diabetes mellitus.....	26	20	+6	39.7	30.7	+9.0
Diarrhea and enteritis (under two years)....	12	22	—10	18.3	33.7	—15.4
DEGENERATIVE DISEASES, So CALLED:						
Arteriosclerosis.....	17	19	—2	26.0	29.1	—3.1
Cerebral hemorrhage.....	52	69	—17	79.4	105.9	—26.5
Heart disease.....	205	158	+47	313.2	242.4	+70.8
Nephritis, chronic.....	63	76	—13	96.3	116.6	—20.3

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to slight increase.

**REPORTABLE ILLNESS AND DEATHS IN BOSTON DURING OCTOBER,
1931, WITH COMPARATIVE FIGURES FOR OCTOBER, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....	Cases.. * 68	† 86	—18	103.9	132.0	—28.1
	Deaths.. * 11	† 8	+3	16.8	12.3	+4.5
Cerebrospinal meningitis.....	Cases.. 3	2	+1	4.6	3.1	+1.5
	Deaths.. 2	1	+1	3.0	1.5	+1.5
Diphtheria.....	Cases.. 62	67	—5	94.7	102.8	—8.1
	Deaths.. 3	—	+3	4.6	—	+4.6
Influenza.....	Cases.. 17	1	+16	26.0	1.5	+24.5
	Deaths.. 2	1	+1	3.0	1.5	+1.5
Measles.....	Cases.. 18	78	—60	27.5	119.7	—92.2
	Deaths.. 1	2	—1	1.5	3.1	—1.6
Pneumonia (lobar).....	Cases.. 75	79	—4	114.6	121.2	—6.6
	Deaths.. 31	33	—2	47.4	50.6	—3.2
Scarlet fever.....	Cases.. 109	113	—4	166.5	173.4	—6.9
	Deaths.. —	1	—1	—	1.5	—1.5
Tuberculosis (pulmonary).....	Cases.. 136	137	—1	207.8	210.2	—2.4
	Deaths.. 37	45	—8	56.5	69.0	—12.5
Tuberculosis (other forms).....	Cases.. 16	36	—20	24.4	55.2	—30.8
	Deaths.. 3	8	—5	4.6	12.3	—7.7
Typhoid fever.....	Cases.. 13	3	+10	19.9	4.6	+15.3
	Deaths.. 2	—	+2	3.0	—	+3.0
Whooping cough.....	Cases.. 50	61	—11	76.4	93.6	—17.2
	Deaths.. 1	3	—2	1.5	4.6	—3.1

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

* Fifty-one (51) nonresident cases; eleven (11) nonresident deaths.

† Forty-seven (47) nonresident cases; seven (7) nonresident deaths. Included in main totals.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

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1559

MONTHLY BULLETIN HEALTH DEPARTMENT



CITY OF BOSTON

FRANCIS X. MAHONEY, M. D., *Health Commissioner.*

Communications relating to this publication should be addressed to the
EDITOR, MONTHLY BULLETIN, HEALTH DEPARTMENT, BOSTON.

VOL. 20.

BOSTON, DECEMBER, 1931.

No. 12

UNDULANT FEVER.

(Continued from November "Bulletin.")

The production, transportation and delivery of the lacteal secretion of animals to distant consumers in such condition as to constitute an acceptable and safe beverage presents many difficult problems. A more rational procedure might seem to be to devise some method, if this has not already been done, of so treating the supply at its source as to conserve and stabilize its food properties and rid it of its superfluous water. People, however, insist on having their milk in the form in which their ancestors usually got it, and there are, of course, other practical obstacles to a more rapid development of the idea of marketing dehydrated milk. Notwithstanding recent improvements in devices for the production of steam the evaporation of the water of milk in itself still means a cost which tends to offset that of transporting the water.

Even when produced under ideal conditions the lacteal secretion of an animal rapidly undergoes changes which affect its taste and impair its nutritive value after it has left the animal's body. Neither low temperature nor pasteurization can prevent this deterioration of milk. They merely delay it. The palatability of milk is also affected by the food which the cows may eat. Salt marsh grass furnishes an example.

The possibilities of milk as a transmitter of disease are practically limitless. All sorts of causative organisms of human diseases not only may survive in cow's milk, but grow and propagate in it. Infections thus transmitted by milk are common and usually not serious, nevertheless the greatest dangers of milk as a transmitter of infectious diseases undoubtedly arise from this liability to contamination from human sources. A large part of the milk consumed in this country today is produced and handled under conditions calculated to lessen opportunities for such contamination. The precautions of this character generally observed in connection with the production and marketing of unpasteurized milk are meticulous, but they do not and cannot eliminate the possibility of human contamination of the milk. They simply serve to reduce the chances of such contamination.

The up-to-date dairy farm procedure to prevent the contamination of "certified" milk is comparable with the less difficult problem of preventing the infection of patients in a hospital operating room. Such infections are rare today, but they do occasionally occur in the best-equipped hospitals. They occur in spite of the present practice of the wearing of masks in a modern hospital operating room to obviate what was discovered to be one of the causes of infection of patients. No examination of milk handlers, no matter how frequently made, can prevent the handling of milk by infectious persons, because acute diseases generally are transmissible before they are recognizable. With the removal of a milk handler recognizably sick or infected, the danger from him, of course, ceases, but the avoidance of contamination of milk is undoubtedly due more to procedures which reduce the chances of the contamination of the milk by a diseased handler than by efforts to assure the freedom of the handlers from infectiousness.

One should, of course, not allow himself to develop a milk phobia. Many articles of food and drink are likewise liable to contamination. There is scarcely an act in one's life which does not involve the possibilities of some accidental injury. The only really safe milk is milk which was pasteurized when fresh and in the container in which it is delivered to the consumer. This is why the Boston Health Department has consistently insisted on the pasteurization of certified milk. Even then the consumer or someone in his household may contaminate the milk before it is consumed.

While secondary in practical importance there are real dangers to human consumers of raw cows' milk by reason of animal diseases with which the cows may be suffering. Animals, like men, are subject not only to diseases which tend to a fatal termination, but also to various infections which the animals sooner or later may be

expected to overcome and perhaps, in consequence, be more valuable as the result of the establishment of an immunity to the infection. Becoming "acclimated" is usually a process of this sort.

The effect on the health of human beings of the consumption of milk from sick cows is a subject regarding which our present knowledge is very incomplete. The lacteal secretion of a human mother may be so affected by emotions as to become practically poisonous to a nursing baby, and it is conceivable that a cow's milk might be similarly affected by anger or fright. It may be assumed, of course, that when the milk from a few sick or frightened animals is mixed with the product of a large herd the objectionable properties of the product of a few animals tend to be so diluted as to be practically negligible.

We do not know just how many or what cow diseases may be transmissible to human beings through the consumption of the cow's milk. There used to be recognized a very rapidly fatal human disease known as "milk fever" resulting from the consumption of the milk of a cow affected with what was popularly called the "trembles." One seldom, if ever, hears this disease mentioned today. In fact, although the American Association of Medical Milk Commissions has declared that "no cow known or suspected to be diseased shall be permitted to remain in a milking herd," one hears little or nothing of the desirability of excluding animals from milk production in the interest of public health on simple visible evidence that they are sick or unhealthy. Until undulant fever was brought into prominence one might have inferred from the precepts of those who formulated the conditions of milk production that milk consumers would be adequately safeguarded against animal diseases by the prevention of streptococci infections and the elimination of tuberculosis among cattle. Epidemics of septic sore throats with a high mortality among the consumers of raw milk repeatedly led to the identification of diseased cows as one cause at least, but there seems to be a tendency to ascribe dangerous streptococcus infection in cattle to the infection of the cattle by human beings, and to regard examinations of human beings who may come in contact with cattle as the essential feature of prevention.

As the means of protecting consumers of milk against tuberculous infections our federal and state officialdom are committed to the policy of slaughtering all cattle which may give a positive reaction to tuberculin as a result of tests made once a year or possibly every six months.

Tuberculin is a product of the laboratory growth of the tubercle bacilli. An animal or human being who has been infected with tuberculosis may be expected to give a characteristic reaction to

tuberculin unless the individual's resistance has gone and the condition hopelessly advanced. A negative reaction may also be obtained for some weeks after a tuberculous animal has been "plugged" with tuberculin, as it is termed in the parlance of the illicit trade in infected cattle. Autopsies made on "reacting" cattle which were apparently healthy animals will show what might be expected to be found in the bodies of human reactors to tuberculin in the same geographical environment, localized tuberculous processes in one part or another of the body, perhaps still active or perhaps completely healed. Autopsies on persons bred in populous urban or suburban districts indicate that tuberculous infection is practically universal and usually results in immunity. Cattle owners who have kept apparently healthy tuberculin reactors in an environment favorable to health likewise find that only a minority develop clinical evidence of tuberculosis.

It is claimed that the policy of killing reactors will result in the eradication of bovine tuberculosis in this country and farmers are encouraged to test their cattle by the offer of compensation from the federal and from the state governments for slaughtered reactors. The success of this policy was attested about two years ago by a press statement emanating from the United States Department of Agriculture to the effect that tuberculosis had been completely eradicated from cattle in Maine, a statement somewhat astonishing by reason of the implied official knowledge of the condition of every animal in the state.

It seems apparent that the official policy which is being applied on serological or allergic evidence of tuberculous infection in cattle will be extended to include those which respond to officially approved serological or allergic tests for "*Brucelliasis*" or "*Brucellosis*" as perhaps called. It may be that the economic cost of such a destruction of animals is inevitable. It does seem though that some practicable method might be found of conserving cattle which would be really more desirable animals by reason of their establishment of an immunity to ill effects from the tubercle bacilli, or the *Brucellae*, or from other bacteria which are capable of giving rise to infections in cattle and which may be in certain stages or under certain conditions transmissible to milk consumers.

The people of the populous eastern Massachusetts region have a special interest in this problem. They have hitherto been able to obtain their milk and to a great extent their cream from New England sources of production which have been supervised by official representatives of the cities and towns where the milk is sold. Dairy farms in New England and particularly in Massachusetts are rapidly decreasing. Milk production is becoming less a

business of farmers and more a fad of rich men. Various factors are doubtless responsible for this tendency. One will be told that the business methods or practices of the distributors who control the large markets for milk are partly responsible. Milk, in spite of modern methods for its conservation, is still a perishable commodity and its distribution is attended by peculiar business risks especially by reason of enormous fluctuations in the urban demand which not only varies with the seasons but with unexpected and temporary changes in temperature in the same season. Farmers complain virtually that an undue share in this business risk is placed by the distributors upon the producers.

Interviews with former dairy farmers who have given up milk producing will also elicit such reasons as the following: At the instigation of officials the herd was tuberculin tested and a considerable proportion were killed as "reactors." The compensation received from federal and state sources did not suffice to pay for replacements from "accredited herds." Moreover, these new tested animals proved so liable "to go to pieces" with tuberculosis in a few months that the farmer became discouraged and disposed of his herd.

If Massachusetts cattle owners were induced to dispose of their herds as the result of tuberculin tests they will find increased incentive to do so as the result of tests for *Brucelliasis*. Doctor K. F. Meyer, in his article "Public Health Control of Infectious Abortion in Certified Milk," appearing in the "American Journal of Public Health" for May, 1931, refers to losses from contagious abortion as sometimes "catastrophic" when animals from isolated farms free from *Brucella* infection have been brought into a herd as "replacements."

Unless milk production in New England changes its present tendency and increases, the people of Eastern Massachusetts will find themselves dependent for their milk upon distant parts of the country, where the sanitary supervision of production contemplated in existing Massachusetts state laws is impracticable.

AGE AND SEX INCIDENCE OF INFLUENZA AND PNEUMONIA.

The United States Public Health Service has recently completed a statistical study of the age and sex variation in cases of influenza and pneumonia. This study summarizes the age and sex variation in influenza and pneumonia morbidity and mortality during the 1928-29 and the 1918-19 epidemics. It is based on canvasses following each epidemic of families, including nearly 150,000 persons in about twelve localities in the United States.

While there are some similarities in the 1928-29 and 1918-19 age curves, the differences are more striking than the similarities. The young adult peak in pneumonia incidence and in mortality in 1918-19 was absent in 1928-29.

Pneumonia incidence and the death rate were both much higher in 1918-19 than in 1928-29 but the percentages of pneumonia cases that were fatal were not greatly different in the two epidemics. There was a very large difference in the percentage of cases complicated by pneumonia in the two epidemics; but once pneumonia existed, the chance of fatal outcome was nearly the same in both years.

Statistical data of this kind give no clue as to the reason for the striking difference in age incidence in the two epidemics, and any attempt at explanation would be only conjecture.— *Health News, issued by the United States Public Health Service, November 30, 1931.*

CANCER RESEARCH.

No important medical discovery has ever been made by an uninstructed mind. The futility of such a hope was recently demonstrated by an offer of \$100,000 for the discovery of the cause of cancer and its cure that brought 3,500 claims from various non-descript sources, none of which had any scientific value whatsoever.

During the past twenty-five years much important information regarding the cancer process has been discovered by scientific research; some of it positive, some of it negative, none of it spectacular, but all of it useful in clearing the way and laying the foundation for further advance.— *Statement of the American Society for the Control of Cancer.*

HELP TO PREVENT THE SPREAD OF COMMUNICABLE DISEASES.

Do your part to try to keep down the number of communicable diseases which are daily reported and so often prove to be fatal. Your part consists in watching your children for symptoms which may be indicative of beginning communicable diseases.

PHYSICAL EXAMINATION THIS YEAR.

If you have not had a physical examination thus far, why not do it now? An audit of one's physical assets and liabilities is very important. Physical defects, if any are found, may be improved and faulty habits corrected by following instructions that are given to you.

PROTECT THE CHILD.

In this day and age it is almost criminal neglect if we do not protect our children against smallpox and diphtheria. The best time for vaccination and immunization treatment is after a child is six months of age. Reaction is milder at this age and best of all immunity is established at a time of life when disease is most fatal.

SOME RULES WORTH REMEMBERING.

Physical and mental fatigue lower resistance against disease.

Do not become overtired.

See that the rooms in which you live, sleep and work are well ventilated. Remain in the open as many hours per day as possible.

Let your food be simple but of sufficient quantity to maintain the proper weight.

Avoid the common drinking cup.

Avoid excessive exposure and chilling.

Keep away from crowds as much as possible.

Wash the hands at frequent intervals, but especially before eating.

SUMMARY OF WORK, NOVEMBER, 1931.

ADMINISTRATION DIVISION.

Prosecution	1	Personnel:	
Legal notices	92	Leaves of absence	2
Settlements:		Permanent appointment	1
Total cases	118	Temporary appointment	1
Notices	25	Resignation	1
Bills	93	Contract approved	1

LICENSES, PERMITS ISSUED, DISAPPROVED, ETC.

Burial permits	1,010	Garbage transportation ap- proved	2
Denatured alcohol approved	79	Milk licenses approved	133
Hen licenses approved	19	Dump permits approved	2
Massage-manicure approved	55	Pedlers' licenses approved	35
Ice cream dealers approved	45		
Ice cream manufacturers ap- proved	5		

MEDICAL DIVISION.

Reported cases	1,013	Visits:	
Nonresidents	92	By V. D. investigator	361
Deaths investigated	39	By medical inspectors to cases of communicable disease	292

LABORATORY DIVISION.

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF NOVEMBER, 1931.

DIPHTHERIA:

Positive for diagnosis	46	
Positive for release	44	
Negative for diagnosis	374	
Negative for release	90	
No growth cultures	13	
	<hr/>	567

GENITO URINARY TUBERCULOSIS:

Positive	4	
Negative	13	
Unsatisfactory	1	
	<hr/>	18

GONORRHEAL URETHRITIS:

Positive	100	
Negative	794	
	<hr/>	894

GONORRHEAL OPHTHALMIA:

Negative	37	37
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MALARIA:

Negative	2	2
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MISCELLANEOUS EXAMINATIONS:*

Positive	14	
Negative	23	
Unclassified	232	
	<hr/>	269

TUBERCULOSIS:

Positive	33	
Negative	335	
Unsatisfactory	1	
	<hr/>	369

TYPHOID:

Positive	3	
Negative	19	
	<hr/>	22

SYPHILIS:

Positive	91	
Negative	863	
Doubtful	6	
Unsatisfactory	7	
	<hr/>	967

Bacteriological milk examinations

538

Bacteriological ice cream examinations

0

Total

3,683

Swimming pools examined

72

Extra waters

5

Milk bottles examined

62

Caps

168

* Unit urines 232; Vincent's angina, 20; virulence, 2; lamb for B coli, 1; Van Camp milk, 1; condensed milk, 1; turkey for B coli, 1; urine for Eberthella typhi, 5; faeces for Eberthella typhi, 5; turkey for organisms, 1.

FOOD DIVISION.

(MILK INSPECTION.)

SURVEY OF THE QUALITY OF MILK SOLD IN BOSTON BY WAGON DEALERS AND CHAIN STORES.

The following is the result of a survey made of milk sold in Boston by wagon dealers and chain stores during November, 1931.

All milk sold in Boston is pasteurized, excepting only milk certified by the Medical Milk Commission of Boston, Inc., which may be sold either raw as Certified Milk, or pasteurized as Certified Milk — Pasteurized.

All bacteria counts are made by the standard plate method of the American Public Health Association using beef extract agar adjusted to a pH of 6.6.

MARKET MILK — PASTEURIZED.

Massachusetts statute law requires not less than 12 per cent milk solids and not less than 3.35 per cent milk fat. The Boston Health Commissioner requires an age of not more than seventy-two hours before pasteurization; a bacterial content of not more than 750,000 bacteria in one cubic centimeter before pasteurization and not more than 50,000 in one cubic centimeter when offered for sale.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Allen, Fred H.*.....	12.58	3.85	13,000
Antetomasso, Peter.....	12.98	4.10	12,000
Buxton, William E.*.....	14.18	4.90	11,000
Casey, James D.....	12.80	3.90	6,000
Cashin, J. F., & Co.*.....	12.58	3.90	11,000
Cedar Hill Farm, Inc.*.....	13.47	4.55	8,000
Chapin, George L.....	13.22	4.25	9,000
Clark, Levi.....	12.58	4.00	14,000
Corkery, John J.....	12.89	3.96	11,000
Cosgrove, Martin S.....	12.77	4.05	9,000
Daley, John.....	12.37	3.80	1,400
Dean, Louis W.*.....	14.16	4.90	4,000
Deerfoot Farm Company*.....	12.98	4.16	11,000
Denehy, Timothy.....	12.43	3.78	32,000
Driscoll, William B., Company.....	12.87	4.08	10,000
Elm Spring Farm Company*.....	12.64	3.99	9,000
Ferguson, Malcolm D.....	13.03	4.15	13,000
Garfield, Mason*.....	15.10	5.75	350
Garvin, Charles.....	14.85	5.90	400
Giroux, J. E., & H. J.....	12.90	4.20	11,000
Griffin, Joseph L.....	13.22	4.30	12,000
Gushee, Chester W.....	12.91	4.05	20,000

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Hampden Creamery Company.....	12.97	4.05	10,000
Herlihy Brothers, Inc.....	12.57	3.88	14,000
Hickey, J. B.....	12.71	4.17	7,000
Holden, John E.....	12.39	3.78	11,000
Hood, H. P., & Sons, Inc.....	12.48	3.88	13,000
Hutchinson, Frank T.....	12.95	4.15	12,000
Jones, William T., Company.....	12.65	3.90	17,000
Kendall Brothers.....	12.86	3.95	10,000
Kingston Brothers.....	12.74	4.18	15,000
Knapp, George J.*.....	12.52	3.77	15,000
Lang Brothers *.....	12.88	4.10	16,000
Larsson, Charles *.....	12.95	3.90	11,000
Lyndonville Creamery Association.....	12.78	4.11	18,000
Manning, Harriet.....	12.65	3.99	21,000
McAdams, J. F., & Brothers, Inc.....	12.89	4.02	14,000
McCarthy Brothers.....	13.11	4.45	11,000
McKernan, John.....	12.94	3.90	12,000
New England Creamery Products Company *.....	12.65	3.97	13,000
Prescott, J. B., Company.....	12.65	4.10	11,000
Robinson, A. J.*.....	12.84	4.00	11,000
Schuster, Adam *.....	13.29	4.20	14,000
Seven Oaks Dairy Company.....	12.64	3.87	13,000
Shawsheen Dairy, Inc.....	12.73	3.90	12,000
Shick, Jacob.....	12.24	3.63	15,000
Somerset Farm Creamery Company.....	13.04	4.35	11,000
Sterling Farm Milk Company.....	12.56	3.77	12,000
Stone, H. L.....	12.78	4.10	13,000
Stuart, W. E., Company.....	12.83	4.13	10,000
Tufts Brothers.....	13.13	4.40	8,000
Turner Centre System, Inc.....	12.40	3.79	14,000
United Farmers Co-operative Creamery Association, Inc..	12.84	4.09	11,000
Warren, Isaac F.....	13.12	4.40	1,000
Weiler, E., & Sons *.....	12.61	3.88	13,000
Westwood Farm Milk Company.....	12.64	3.93	11,000
White Brothers.....	12.96	4.25	11,000
Whiting Milk Companies.....	12.41	3.72	14,000
Whittemore, W. D.*.....	13.10	4.15	10,000
Wiswall, Granville A.....	12.77	3.90	12,000
Woodland, Charles L.*.....	12.91	4.10	11,000

* All milk from cows tuberculin tested within one year under state and federal supervision.

CHAIN STORE MILK — MARKET MILK — PASTEURIZED.

NAME OF DEALER.	Supplied by	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
The Great Atlantic & Pacific Tea Company.	Hood, H. P., & Sons, Inc...	12.32	3.77	13,000
Economy Grocery Stores Corporation.	Herlihy Brothers, Inc.....	12.56	3.88	11,000
First National Stores, Inc.....	Bellows Falls Co-operative Creamery Association.	12.85	4.13	10,000
Gray-United Stores, Inc.....	Turner Centre System, Inc..	12.41	3.70	11,000
Morgan Brothers.....	New England Creamery Products Company and United Farmers Co-operative Creamery Association, Inc.	12.65	3.98	11,000
H. Winer Company.....	Whiting Milk Companies...	12.40	3.77	12,000
M. Winer Company.....	M. Winer Company.....	12.67	3.95	23,000

CERTIFIED MILK.

Milk produced, bottled and sealed at the farm under the supervision of the Medical Milk Commission of Boston, Inc. Fat content not less than 3.50 per cent and averaging not less than 4 per cent during ninety days. Bacterial content not more than 10,000 in one cubic centimeter. All milk from cows tuberculin tested and reported free from bovine tuberculosis.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Deerfoot Farm Company.....	Alta Crest *.....	13.16	4.15	3,000
Hood, H. P., & Sons, Inc.....	Own *.....	13.73	4.55	900
Walker-Gordon Laboratory Company.	Own *.....	13.04	4.20	3,500

* All cows tested and reported free from infectious abortion.

CERTIFIED MILK—PASTEURIZED.

The standards, before pasteurization, are the same as for Certified Milk. Produced, bottled, sealed and pasteurized under the supervision of the Medical Milk Commission of Boston, Inc.

NAME OF DEALER.	Kind of Certified Milk.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
		Per Cent.	Per Cent.	
Hood, H. P. & Sons, Inc.....	Own *.....	13.80	4.70	200
Walker-Gordon Laboratory Company.	Own *.....	12.95	4.30	100
Whiting Milk Companies.....	Hampshire Hills.....	12.76	3.88	125

* All cows tested and reported free from infectious abortion.

GRADE A MILK —PASTEURIZED.

Massachusetts law requires not less than 4 per cent milk fat; production from Grade A dairies; an age of not more than forty-eight hours before pasteurization; a bacteria content of not more than 250,000 in one cubic centimeter before pasteurization and not more than 25,000 in one cubic centimeter when delivered.

NAME OF DEALER.	SOLIDS.	FAT.	Standard Plate Count. Colonies of Bacteria in One Cubic Centimeter.
	Per Cent.	Per Cent.	
Antetomasso, Peter.....	13.44	4.30	8,000
Cashin, J. F., & Co.*.....	13.16	4.63	7,000
Corkery, John J.....	13.78	4.70	24,000
Cosgrove, Martin S.....	13.08	4.20	4,500
Dean, Louis W.*.....	13.96	4.60	4,000
Elm Spring Farm Company*.....	13.22	4.23	7,500
Griffin, Joseph L.....	13.11	4.21	6,000
Herlihy Brothers, Inc.....	12.47	4.18	7,000
Hood, H. P., & Sons, Inc.*.....	12.58	4.15	6,000
Jones, William T., Company.....	13.81	4.80	5,000
Knapp, George J.*.....	13.24	4.60	9,000
Lyndonville Creamery Association.....	13.44	4.43	9,000
McAdams, J. F., & Brothers, Inc.*.....	13.06	4.30	9,000
New England Creamery Products Company*.....	13.28	4.30	7,000
Robinson, A. J.*.....	13.42	4.50	3,500
Seven Oaks Dairy Company.....	13.32	4.33	8,500
Shawsheen Dairy, Inc.....	13.32	4.30	6,000
Sterling Farm Milk Company.....	13.13	4.30	7,000
Stone, H. L.....	13.05	4.30	8,000
Turner Centre System, Inc.*.....	12.58	4.10	2,500
White Brothers*.....	13.01	4.30	9,000
Whiting Milk Companies*.....	12.61	4.16	6,000
Woodland, Charles L.*.....	13.64	4.55	2,500

* All milk from cows tuberculin tested within one year under state and federal supervision.

MILK INSPECTION—SAMPLES EXAMINED.

CHEMICAL:

Milk from wagons	344
Milk from stores	872
Ice cream	1
Vinegar	37
Miscellaneous	5

Samples referred to Bacteriological Laboratory for examination:

Milk	538
Bottle	62
Caps	168
Court cases	4
Fines	\$60

DAIRY DIVISION.

Total services	1,946	Total cattle inspected	8,480
Dairies inspected	548	Inspection of milk plants and	
Scoring above 50 *	461	licensed dealers	303
Scoring below	87	Country creamery inspections, .	4
With milk rooms	532	Sediment tests	548
Without milk rooms	16	Bacteriological examinations .	492
Inactive	43		

* Passable mark.

FOOD INSPECTION DIVISION.

NOVEMBER, 1931.

District inspections	3,094
Reinspections	182
Market inspections	1,081
Terminal inspections	482
Vehicle inspections *	4,303
Stand inspections	1,045
Complaints	20
Notices served	86
Hours on special duty	354
Samples taken	44
Condemnations	50
Pedlers' licenses certified	35
Pedlers' vehicles approved	806
Numbers assigned	46

* This represents weekly inspections for four inspectors of about three hundred pedlers' vehicles on the Saturday market.

ABATTOIR DIVISION.

Cattle inspected	3,563	Parts condemned	1,046
Calves inspected	3,395	Animals condemned	48
Swine inspected	4,247	Total of meat condemnations	
Sheep inspected	865	(pounds)	20,311

SANITARY DIVISION.

Original inspections	3,351	Complaints investigated	504
Causes for action found	1,777	Nuisances abated	1,737
Reinspections	5,651	Routine inspections	2,801
Legal notices served	72		

TUBERCULOSIS DIVISION.

HEALTH UNIT SOLARIA, NOVEMBER, 1931.

	Number of Days.	Attendance for Month.	Attendance Each Day.
Charlestown.....	23	621	27
East Boston.....	23	567	27
North End.....	23	490	21
Roxbury.....	22	589	26
South Boston.....	23	578	25
West End.....	23	385	16
Totals.....	137	3,230	142

In the month of November there were one hundred and ten clinic sessions (seventy-six day and thirty-four night) held at the various units.

DISTRICTS.	Number of Clinic Sessions.	TOTAL NUMBER OF DAY CLINICS.			Number of Clinic Sessions.	TOTAL NUMBER OF NIGHT CLINICS.		
		Adults.	Children.	Total.		Adults.	Children.	Total.
South End.....	12	123	124	247	5	20	—	20
East Boston.....	8	53	83	136	4	4	—	4
North End.....	9	22	66	88	3	2	2	4
West End.....	7	31	59	90	5	10	9	19
South Boston.....	9	62	86	148	3	5	3	8
Boston Dispensary.....	8	35	14	49	—	—	—	—
Brighton.....	3	11	9	20	4	6	1	7
Charlestown.....	3	23	57	80	4	3	1	4
Codman square.....	7	71	81	152	3	9	1	10
Hyde Park.....	3	26	30	56	3	3	—	3
Arcadia street.....	3	21	26	47	—	—	—	—
Roxbury.....	4	77	110	187	—	—	—	—
Totals.....	76	555	745	1,300	34	62	17	79

DISTRICTS.	TOTAL NUMBER OF NEW CASES AT CLINIC.					
	DAY CLINIC.			NIGHT CLINIC.		
	Adults.	Children.	Total.	Adults.	Children.	Total.
South End.....	29	37	66	3	—	3
East Boston.....	14	14	28	1	—	1
North End.....	5	3	8	—	—	—
West End.....	6	15	21	2	—	2
South Boston.....	16	13	29	2	2	4
Boston Dispensary.....	9	1	10	—	—	—
Brighton.....	1	3	4	1	1	2
Charlestown.....	3	11	14	2	—	2
Codman square.....	8	15	23	2	—	2
Hyde Park.....	1	7	8	—	—	—
Arcadia street.....	3	5	8	—	—	—
Roxbury.....	9	22	31	—	—	—
Totals.....	104	146	250	13	3	16

DISTRICTS.	DAY CLINIC.				NIGHT CLINIC.				
	VON PIRQUET.		Wasser-mann.	Lamp.	VON PIRQUET.		Wasser-mann.	Lamp.	X-Ray Reports.
	V. P.	V. P. Tests.			V. P.	V. P. Tests.			
South End.....	40	32	30	90	1	—	—	—	93
East Boston.....	16	11	11	—	—	—	1	—	40
North End.....	8	9	4	—	—	2	—	—	13
West End.....	16	15	7	—	—	—	2	—	35
South Boston.....	17	13	13	54	2	—	2	—	112
Boston Dispensary.....	6	3	—	—	—	—	—	—	—
Brighton.....	4	6	1	—	1	—	—	—	—
Charlestown.....	12	15	4	—	—	—	2	—	26
Codman square.....	15	9	9	—	—	1	—	—	—
Hyde Park.....	5	6	3	—	—	—	1	—	—
Arcadia street.....	5	—	2	—	—	—	—	—	—
Roxbury.....	22	12	8	—	—	—	—	—	35
Totals.....	166	131	92	144	4	3	10	—	354

TIME ELAPSING BETWEEN DATE OF REPORTING CASES OF PULMONARY TUBERCULOSIS AND DATE OF DEATH, DURING NOVEMBER, 1931.

CLASSIFICATION.	Number.	Percentage.
After death.....	8	20.51
Seven days or less.....	4	10.26
Eight to fourteen days, inclusive.....	1	2.57
Fifteen to twenty-one days, inclusive.....	—	—
Twenty-two to thirty-one days, inclusive.....	2	5.13
WITHIN FIRST MONTH. (Total).....	15	38.47
Within second month.....	1	2.57
Within third month.....	—	—
Within fourth month.....	1	2.57
Within fifth month.....	1	2.57
Within sixth month.....	2	5.13
Within seventh month.....	—	—
Within eighth month.....	1	2.57
Within ninth month.....	—	—
Within tenth month.....	2	5.13
Within eleventh month.....	1	2.57
Within twelfth month.....	—	—
WITHIN FIRST YEAR PRECEDING DEATH. (Total).....	24	61.58
Within second year.....	7	17.93
Within third year.....	2	5.13
More than three years.....	6	15.36
Grand totals.....	39	100.00

MONTHLY REPORT OF ADMISSIONS TO AND DISCHARGES FROM TUBERCULOSIS SANATORIA OF BOSTON CASES FOR THE MONTH OF NOVEMBER, 1931.

PUBLIC SANATORIALS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Boston Sanatorium.....	32	20	18	26
North Reading State Sanatorium.....	3	7	3	2
Lakeville State Sanatorium.....	5	4	2	2
Rutland State Sanatorium.....	5	3	3	—
Westfield State Sanatorium.....	—	1	1	1
Tewksbury.....	—	—	—	—
Totals.....	43	35	27	31

PRIVATE SANATORIALS.	Admitted.		Discharged.	
	M.	F.	M.	F.
Doctor Lapham's Sanatorium.....	—	—	—	—
Plymouth County Sanatorium.....	—	—	—	—
Channing Home.....	—	—	—	—
United States Veterans' Hospital.....	2	—	2	—
Doctor Crane's Sanatorium.....	—	—	—	—
Rutland Prison Camp.....	—	—	—	—
Totals.....	2	—	2	—

CHILD HYGIENE DIVISION.

Report of Child Health Conferences, November, 1931.

STATION.	Number of Babies.	Number of Pre-school (age) Children.	Total Attendance.	Number of New Babies.	Number of New Preschool (age) Children.	Total New Cases.	Number of Conferences.	Average Attendance.
Old Town Hall.....	171	11	182	24	—	24	3	61
Lincoln street.....	75	7	82	14	1	15	3	27
Charlestown.....	309	25	334	20	1	21	8	42
Codman square.....	449	38	487	54	3	57	8	61
Columbia road.....	283	22	305	42	2	44	8	38
Arcadia street.....	421	25	446	36	3	39	7	64
East Boston.....	392	22	414	66	1	67	8	52
Hyde Park.....	184	38	222	27	1	28	7	32
Jamaica Plain.....	164	17	181	19	2	21	3	60
North End.....	224	56	280	32	5	37	7	40
Roslindale.....	267	50	317	32	3	35	5	63
Roxbury.....	640	23	663	79	3	82	11	60
Children's Hospital.....	107	9	116	20	1	21	4	29
Columbus avenue.....	385	36	421	51	4	55	7	60
South Boston.....	398	66	464	52	9	61	7	66
South End.....	307	20	327	52	2	54	7	47
Tyler street.....	114	11	125	7	—	7	3	42
West End.....	354	90	444	28	2	30	8	56
Totals.....	5,244	566	5,810	655	43	698	119	50

CHILD HYGIENE DIVISION REPORT OF TOXIN-ANTITOXIN ADMINISTRATIONS AND VACCINATIONS AT CHILD HEALTH CONFERENCES, NOVEMBER, 1931.

STATION.	TOXIN-ANTITOXIN.				Number of Vaccinations.
	First.	Second.	Third.	Total.	
Old Town Hall.....	4	1	—	5	3
Lincoln street.....	3	4	3	10	—
Charlestown.....	12	14	16	42	25
Codman square.....	27	29	30	86	16
Columbia road.....	12	19	21	52	11
Arcadia street.....	4	—	—	4	23
East Boston.....	—	—	—	—	—
Hyde Park.....	13	17	13	43	17
Jamaica Plain.....	3	3	2	8	11
North End.....	—	—	—	—	—
Roslindale.....	3	4	4	11	40
Roxbury.....	—	—	—	—	—
Children's Hospital.....	6	1	7	14	6
Columbus avenue.....	1	2	6	9	37
South Boston.....	—	—	—	—	2
South End.....	1	2	6	9	13
Tyler street.....	3	3	3	9	3
West End.....	7	8	5	20	2
Totals.....	99	107	116	322	209

REPORT OF MEDICAL INSPECTORS, NOVEMBER, 1931.

Physical examinations	124
Schick tests	13
Toxin-antitoxin	795
Vaccinations at units	226
Vaccinations certificates	169
Day nursery visits	12

PATIENTS TREATED AT DENTAL CLINICS OF HEALTH UNITS, NOVEMBER, 1931.

UNIT.	Number of Patients.	Number of Operations.
West End.....	830	1,656
North End.....	667	1,304
South End.....	834	1,638
East Boston.....	731	1,354
South Boston.....	1,024	1,900
Roxbury.....	845	1,334
Charlestown.....	906	1,829
	5,837	11,015

REPORT OF MEDICAL INSPECTIONS OF PAROCHIAL SCHOOLS, NOVEMBER, 1931.

Number visits to schools	311
Children seen	2,557
Children excluded	36
Children readmitted	920
Physical examinations	3,410

COOPERATIVE HEALTH UNIT REPORT, NOVEMBER, 1930.

	Charles-town.	East Boston.	North End.	Roxbury.	South Boston.	South End.	West End.	Totals.
BOSTON DISPENSARY:								
Calls by district physicians.....	66				81			147
HULL STREET DISPENSARY:								
Calls by district physicians.....			45					45
BOSTON LYING-IN HOSPITAL:								
Prenatal clinics.....	4	5	4	5	3	3	3	27
Attendance.....	23	84	46	34	57	22	40	306
New cases.....	9	15	11	6	15	7	10	73
FAMILY WELFARE SOCIETY:								
Meetings.....	4	4			4	4	4	20
Attendance.....	31	47			44	53	43	218
CHILDREN'S HOSPITAL:								
Infantile clinics.....	3	4			4	4		15
Attendance.....	29	22			50	21		122
New cases.....		1						
STATE DEPARTMENT OF MENTAL HYGIENE:								
Habit-forming clinics.....							3	3
Attendance.....							21	21
New cases.....							7	7
BOY SCOUTS OF AMERICA:								
Meetings.....				2	2			4
Attendance.....				15	41			56
JUVENILE COURT:								
Meetings.....		3						3
Attendance.....		32						32
JEWISH WELFARE SOCIETY:								
Meetings.....							2	2
Attendance.....							64	64
Attendance at Mothers' Club.....							10	10
Attendance at lecture.....							17	17
HEALTH DEPARTMENT—REFRACTION SERVICE:								
Refractions.....			129					129
Diagnoses.....			147					147
Glasses recommended.....			47					47
New cases.....			37					37
MOTHERS' CLUB:—H. D. D.								
Meetings.....			1	1				3
Attendance.....	1		23	16				64

NURSING SERVICE.

REPORT FOR NOVEMBER, 1931.

HOMES VISITED	14,832
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CHILD HYGIENE:

Visits to new cases	1,977
Visits to old cases	8,494
	10,471
Included are:	
Wrong addresses	153
Not seen *	889
	1,042
Absent visits	1,042

COMMUNICABLE DISEASES:

Visits to new cases	416
Visits to old cases	732
	1,148
Included are:	
Wrong addresses	14
Not seen *	30
	44
Absent visits	44

TUBERCULOSIS:

Visits to new cases	159
Visits to old cases	5,086
	5,245
Included are:	
Wrong addresses	50
Not seen *	414
	464
Absent visits	464
Positive cases visited	2,330
Contact cases visited	1,976
Suspect cases visited	475
	5,245

MISCELLANEOUS VISITS:

Patients accompanied to hospital	8
Visits to day nurseries	79
Visits to parochial schools	647
	734
	17,598

	Hrs.	Min.
Hours in station	3,118	40
Hours at baby and pre-school conference	1,478	30
Hours at tuberculosis clinic	640	05
Hours at nurses' conferences	153	15
Hours at solarium	1,948	15
Hours at mothers' classes	13	50
	7,351	55
Total number of hours	7,351	55

* All calls recorded as "not seen" represent visits made to the homes of the patients, but the patients were out at the time of the visits. These calls are always repeated.

VITAL STATISTICS, NOVEMBER, 1931.

BIRTHS, REPORTABLE ILLNESS, AND DEATHS IN BOSTON DURING NOVEMBER, 1931, WITH COMPARATIVE FIGURES FOR NOVEMBER, 1930.

	BIRTHS AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 1,000 OF POPULATION, EXCEPT WHERE OTHERWISE STATED.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
ALL CAUSES:						
Total deaths.....	816	913	—97	12.47	14.01	—1.54
Nonresidents deducted.....	648	747	—99	9.90	11.46	—1.56
BY AGE:						
Under one year.....	60	112	—52	.92	1.72	—.80
One year to four years, inclusive.....	30	24	+6	.46	.37	+.09
Sixty years and over.....	385	397	—12	5.88	6.09	—.21
INFANT AND MATERNAL MORTALITY:						
a. Total registered live births.....	1,128	1,105	+23	17.24	16.96	+.28
b. Registered stillbirths.....	22	29	—7	.33	.44	—.11
Stillbirths per 1,000 live births and stillbirths.....	—	—	—	19.13	25.57	—6.44
c. Deaths of mothers from causes incident to childbirth.....	6	14	—8	.09	.21	—.12
d. Deaths of mothers per 1,000 live births and stillbirths.....	—	—	—	5.22	12.34	—7.12
d. Deaths in first year per 1,000 live births..	—	—	—	53.19	101.36	—48.17
	ACTUAL NUMBER OF DEATHS.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
VIOLENT DEATHS:						
Accidents *.....	54	44	+10	82.5	67.5	+1.50
Homicides.....	2	1	+1	3.0	1.5	+1.5
Suicides.....	8	8	—	12.2	12.3	—.1
Automobile accidents * (death in Boston)...	18	14	+4	27.5	21.5	+6.0
MISCELLANEOUS:						
Alcoholism, acute or chronic (stated as primary).....	10	10	—	15.3	15.3	—
Broncho-pneumonia.....	32	51	—19	48.9	78.3	—29.4
Cancer.....	114	97	+17	174.2	148.8	+25.4
Cirrhosis of the liver.....	7	6	+1	10.7	9.2	+1.5
Diabetes mellitus.....	18	19	—1	27.5	29.1	—1.6
Diarrhea and enteritis (under two years)....	4	17	—13	6.1	26.1	—20.0
DEGENERATIVE DISEASES, SO CALLED:						
Arteriosclerosis.....	22	20	+2	33.6	30.7	+2.9
Cerebral hemorrhage.....	38	53	—15	58.1	81.3	—23.2
Heart disease.....	177	189	—12	270.5	290.0	—19.5
Nephritis, chronic.....	45	65	—20	68.8	99.7	—30.9

* Automobile accidents included in accident total.

NOTE: All figures for births and deaths are subject to increase.

**REPORTABLE ILLNESS AND DEATHS IN BOSTON DURING NOVEMBER,
1931, WITH COMPARATIVE FIGURES FOR NOVEMBER, 1930.**

	CASES AND DEATHS.					
	ACTUAL NUMBER.			RATE PER 100,000 OF POPULATION.		
	1931.	1930.	Increase or Decrease.	1931.	1930.	Increase or Decrease.
REPORTABLE DISEASES:						
Anterior poliomyelitis.....Cases..	10	30	-20	15.3	46.0	-30.7
Deaths.....	—	1	-1	—	1.5	-1.5
Cerebrospinal meningitis.....Cases..	7	3	+4	10.7	4.6	+6.1
Deaths.....	3	2	+1	4.6	3.0	+1.6
Diphtheria.....Cases..	76	88	-12	116.1	135.0	-18.9
Deaths.....	7	1	+6	10.7	1.5	+9.2
Influenza.....Cases..	14	6	+8	21.4	9.2	+12.2
Deaths.....	7	3	+4	10.7	4.6	+6.1
Measles.....Cases..	14	123	-109	21.4	188.7	-167.3
Deaths.....	—	1	-1	—	1.5	-1.5
Pneumonia (lobar).....Cases..	82	136	-54	125.3	208.7	-83.4
Deaths.....	41	47	-6	62.6	72.1	-9.5
Scarlet fever.....Cases..	201	163	+38	307.1	250.1	+57.0
Deaths.....	3	1	+2	4.6	1.5	+3.1
Tuberculosis (pulmonary).....Cases..	113	106	+7	172.6	162.6	+10.0
Deaths.....	39	39	—	59.6	59.8	—
Tuberculosis (other forms).....Cases..	21	23	-2	32.0	35.3	-3.3
Deaths.....	5	6	-1	7.6	9.2	-1.6
Typhoid fever.....Cases..	4	12	-8	6.1	18.4	-12.3
Deaths.....	—	—	—	—	—	—
Whooping cough.....Cases..	50	52	-2	76.4	79.8	-3.4
Deaths.....	1	1	—	1.5	1.5	—

The foregoing tables include all deaths known to have occurred in Boston. No deductions have been made for nonresidents, except in the one line where the deaths of residents are specifically stated as such. The word "nonresident" here means a person whose usual place of abode is elsewhere than in Boston.

All deaths of infants have been included as deaths and not as stillbirths, if so reported by the attending physician, the rule being to report as a death every case in which the infant died after having manifested any sign of life whatsoever after birth.

Death rates of mothers from causes incident to pregnancy and childbirth, and stillbirth rates, are computed on the basis of the recorded number of births and stillbirths taken together, per 1,000. Death rates of children under one year old are computed on the basis of the number of recorded live births per 1,000.

For the purpose of computations set forth above, the estimated population for July 1, 1931 (mid-year), based upon the federal census of 1930, has been used.

DO NOT DESTROY.

When you have no further use for this
Circular give it to someone else.

APR 8 1932

